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Bulletin
Georgia State College
of Agriculture

Announcement 1918-1919

Register, Officers and Students
Session 1917-1918

Entered as second-class matter December 21, 1912, at the post office at Athens, Georgia, under the Act of August 24, 1912. Issued monthly by the College.

THE STATE NEEDS—

MEN and **WOMEN** who can supply the increasing demand for college-trained county agents and county home economics agents.

MEN and **WOMEN** who will meet the great demand for agricultural teachers in the high school and in the district agricultural school and normal schools.

MEN and **WOMEN** who will specialize and train themselves for expert work in college extension activities, for investigational work in experiment stations, and for special service with the United States Department of Agriculture.

WOMEN who will adequately train themselves for the profession of home-making which includes participation in municipal and rural community upbuilding along lines of health, sanitation, and economic and social welfare.

WOMEN who will prepare themselves to manage schools, hospitals, and hotels from the standpoint of diet and feeding.

WOMEN who will carry on special lines of agriculture as floriculture, green house management, and commercial canning and preserving.

MEN who are trained agriculturists, for employment by railroads, fertilizer manufacturers, seed houses and agricultural implement concerns.

MEN who will become veterinary practitioners to serve the rapidly growing livestock industry of the South.

MEN who will supply the demand for foresters, and re-establish the forests of the state.

MEN with college training to farm, to win success, to become farmer-legislators and farmer-governors, and to place agriculture as an avocation, in honor, second to none.

Announcement

OF THE

Georgia State College of Agriculture

Athens, Georgia

For the Session of 1918-1919
With a Register of Officers and Students
For the Session of
1917-1918.

Issued in April, as Volume VI, No. 23—Bulletin 151
Georgia State College of Agriculture

COURSES OFFERED

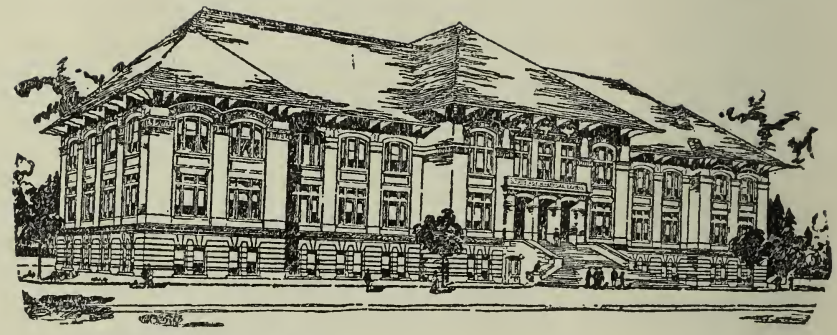
Long Courses

Short Courses

For further information as to courses, expenses and entrance requirements and methods of entrance consult index, page 136.

CALENDAR 1918-1919

July 1, Monday:	Opening of the Summer School.
August 3, Saturday:	Close of the Summer School.
September 14:	Meeting of the Faculty.
September 16:	First day of Registration.
September 16-19:	Examinations for Entrance.
September 18:	Opening of the First Term.
November 28:	Thanksgiving Day.
December 21:	Close of the First Term.
January 2:	Opening of the Second Term.
January 2:	Opening of the Short Courses.
January 19:	Birthday of General R. E. Lee.
February 21:	Exercises in commemoration of the 118th Anniversary of the Demosthenian Society and the 99th Anniversary of the Phi Kappa Society.
February 22:	Washington's Birthday.
March 16:	Close of the Second Term.
March 18:	Opening of the Third Term.
May 20:	Last date for submission of Prize Essays.
June 9:	Meeting of the Board of Visitors.
June 12:	Annual Session of the Board of Trustees.
June 11-13:	Examinations for entrance.
June 13, Friday:	4:00 P. M., Military exercises and drill.
June 14, Saturday:	8:30 P. M., Sopohomore declamation contest.
June 15, Sunday:	11:00 A. M., Baccalaureate sermon.
June 16, Monday:	10:30 A. M., Exercises of the undergraduates representing the branches of the University.
	8:30 P .M., Champion debate between the Phi Kappa and Demosthenian Societies.
June 17, Tuesday:	10:30 A. M., Business meeting of the Alumni Society.
	12 M., Oration before the Alumni Society.
	4:30 P. M., Junior orations and delivery of Sophomore cup.
June 18, Wednesday:	Commencement Day. Close of the 119th annual session.



***Administration building of the College of Agriculture.**

**For description of building and its laboratories see pages 13, 14, 15, 16 and 17.*

State College of Agriculture of the University of Georgia

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‡On leave of absence in army service.

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The State College of Agriculture

HISTORICAL STATEMENT

The Georgia State College of Agriculture was organized in accordance with an act of the General Assembly of the State passed July 21, 1906. It is an outgrowth of the State College of Agriculture and Mechanics Arts established as a department of the University of Georgia on May 1, 1872, by the Trustees of the University who accepted for the purpose, funds arising from the landscrip. From time to time support was received from the federal government, until the State, realizing that agriculture represents its principal industry, decided by legislative enactment to differentiate and specifically support an agricultural college.

The act of 1906 establishing the present College and better known as the "Conner Bill," contains the following preamble which sets forth reasons for enlarging the work of the State College of Agriculture along both educational and research lines:

"Agriculture is the principal industry of the State, and the main source from which the material prosperity of the State must come. Experience has demonstrated the great value of agricultural education in permanently improving the soil, multiplying its yield and increasing the value of its products. There is a growing demand by the people of the State for agricultural education, and for the practical benefits of scientific research in this line, and for improved methods in farming."

This act provides that the State College of Agriculture shall be under the direction of a Board of Trustees, consisting of eleven men, three selected from the trustees of the University proper, three from the directors of the Georgia Experiment Station, including the Commissioner of Agriculture, and five from the State at large. The Board has the same functions and exercises the same authority as that of the trustees of similarly organized coördinated divisions of the University, but is subject, in accordance with the provisions of the constitution of the State, to the general control of the University trustees.

The Georgia State College of Agriculture constitutes an integral part of the University System of Georgia, and while it has certain buildings, lands and equipment set aside for the special use of its corps of instructors and students, its work in general is closely associated with the University proper, so that agricultural students enjoy all the advantages which a great university system affords. These advantages include instruction and advice from the professors in

other colleges, use of the general libraries and scientific laboratories, and membership in the various class and society organizations. This is most desirable, since classroom training is but a part of a man's education.

GENERAL STATEMENT

OBJECTS OF THE COLLEGE

The purpose and plan of the College of Agriculture is, first to train agricultural students in the sciences pertaining to correct farm practice that they may receive a thorough and liberal education; second, to so arrange the course of instruction that men of limited means, opportunity and education may receive the greatest practical benefit by attending courses of varying length provided by the College; third, to take an active part in the dissemination of agricultural knowledge among the farmers of the state by means of extension teaching, farmers' institutes, bulletins, and other publications of a popular and practical nature, and to encourage and promote research in every legitimate way.

THE AGRICULTURAL HALL

The Agricultural Hall was dedicated January 18, 1909, with appropriate ceremonies. The building is 264 feet long, 72 feet wide, three stories high. It is constructed of cream-colored pressed brick, Bedford limestone for the foundation, terra cotta trimmings in designs symbolical of the purposes of the building, eaves wide and roof of red tile. The structure contains 60,000 square feet of floor space, has sixty large rooms comprising administration and division offices, private laboratories, class rooms and laboratories for the divisions of agronomy, animal and dairy husbandry, horticulture and entomology, and agricultural chemistry; and a reading room and library. The offices of the Extension division are also located in this building. The auditorium has a seating capacity of 400.

The building is heated by steam, lighted by electricity, is kept comfortable, clean and sanitary. Shower baths and lockers are provided for students whose laboratory work in shop or field require these conveniences.

CAMPUS OF COLLEGE OF AGRICULTURE

The campus of the College of Agriculture is situated about half a mile south of the administrative building of the University of Georgia. The Agricultural Hall occupies a commanding position upon the brow of a hill, the surrounding grounds presenting unusual advantages for landscape gardening and the making of a beau-

tiful campus. Model roads and walks are being perfected, trees and shrubs have been planted to supplement those nature has already provided, and the art of landscape gardening is being applied as means and time will admit.

AGRICULTURAL LIBRARY

The library and reading room occupy large, well lighted rooms on the main floor of Agricultural Hall. A modern agricultural library has been established, consisting not only of important books recently issued, but a practically complete set of bulletins, appertaining to agricultural subjects, of all the states and departments of the federal government; there are also encyclopedias, herd and flock books, and bound volumes of leading publications.

About one hundred publications including the leading agricultural journals of this and foreign countries, scientific and trade papers bearing upon agriculture, and a few popular magazines are placed in the reading room for the use of the students. In addition one hundred and sixty daily and weekly newspapers come to the library.

The library is open for the use of students from 9 a. m. to 6 p. m. on week days, and books, not on the reserve shelves may be borrowed for a period of two weeks.

FORESTRY LABORATORY

The forest museum and library are located in the agricultural engineering building. The museum contains an excellent collection of tools used in woods operations, and exhibits of forest products. The library contains copies of the important books relating to forestry and allied subjects; a complete file of government and state publications relating to forestry; and about fifty lumber, forestry and trade journals.

Since the success of instruction in agriculture depends largely upon the thoroughness and efficiency of laboratory training, the equipment of an institution in this respect is important. Below will be found a brief description of these laboratories.

AGRONOMY LABORATORIES

Four laboratories in the east end of the main building are used by the Division of Agronomy.

The soil laboratory is located on the first floor and occupies the entire end of the building. This laboratory is equipped with soil tubes, shakers, centrifuge, water baths, ovens, distillation apparatus, balances, and other apparatus necessary for carrying on the physical work with soils. The type soils consist of a number of prominent soil types.

The farm crops laboratory is used for studying such farm crops

as corn, wheat, oats, barley, rye, the forage crops and many miscellaneous crops, such as peanuts, rice, tobacco, etc., also for the study of weed pests of the farm. It is equipped with laboratory tables, microscopes, seed germination boxes, balances, etc. Along the walls are seed cases in which are kept specimens of the different crops as well as different market grades of grain. An herbarium has been started in which are mounted specimens of many native grasses and many of the weeds of Georgia.

The cotton industry laboratory is equipped for cotton grading, identifying varieties and making a close study of the cotton plant, its seed and fiber. Plant breeding studies are also conducted here. Characteristics of plants are noted and the results of crossing and selection are studied.

Farm Management Laboratory: This laboratory has been supplied with tables and will be fitted with calculating machines as rapidly as possible. It is expected that more emphasis will be given to farm management in the future, and the equipping of this laboratory is to supply the opportunity for the students to do a larger amount of laboratory work along this line.

A portion of the greenhouse is set aside for laboratory work of this division. Soil fertility experiments and plant breeding are carried on by students in a part of the house.

Private laboratories are available for instructors in preparing work for students and for study along special lines.

ANIMAL HUSBANDRY LABORATORIES

About seven thousand feet of floor space in the basement of Agricultural Hall, is set aside for laboratory work in theoretical and practical instruction in dairying. In the butter making laboratory are various makes of separators, both hand and power which the students are required to set up and operate, thus giving them a first hand knowledge of the type best suited to their farm needs. The laboratory has been equipped with reference both to the home dairy and creamery. The milk testing laboratory is a large, well lighted room in which several models of Babcock testers are used. Various methods are used for determining the adulteration of milk. Facilities are also provided for determining the solids not fat, as well as how to make curd tests.

A pasteurizing laboratory in which students are taught how to meet the highest sanitary requirements as well as how to prepare dairy products for storage and long shipment, is provided. Refrigerating facilities in which temperature requirements are met in ripening, storing and holding of different dairy products, are afforded for laboratory work of this nature.

Students are provided herd books and taught how to trace pedi-

grees as well as the use of forms for tabulating and keeping them. Various breeds of live stock on the farm are used for stock judging, breeding and feeding experiments.

HORTICULTURAL LABORATORIES

The division of horticulture has three laboratories. A student laboratory and a private laboratory are in the Agricultural Hall, and the third, a spraying laboratory, on the horticultural grounds, situated about 400 yards southeast of the main building.

The students' laboratory is equipped with various models, microscopes, samples of horticultural tools, etc. The private laboratory contains a culture room, fume hoods, and other essential fixtures for research work in horticulture. Between the laboratories is the office with vault apartment for records. A barn, tool shed, spray and greenhouse constitute a part of the equipment for students' field work.

Greenhouse. The College greenhouses consist of three houses each 75 feet long, and 25 feet wide, divided into seven compartments so that practical, experimental and class work can be carried on in them at the same time. The structures are semi-steel, the three being connected with a metal-lathe concrete work room. The plans for the development of the greenhouse plant provide that the present unit shall constitute only a wing of the future structure.

AGRICULTURAL ENGINEERING LABORATORIES

The agricultural engineering laboratories, class rooms, offices and shops are located in the agricultural engineering building just back of the main agricultural building, facing the main drive.

The basement contains the heavy farm machinery laboratory, the cement testing laboratory and the material testing laboratory. There is also a locker room with lavoratories, and the shower bath room. The heavy farm machinery laboratory contains tractors, manure spreaders, threshing outfits, silage cutters and other heavy farm machinery. The cement testing laboratory contains all of the necessary apparatus used in complete testing of cements, also simple apparatus for speedy determinations of strength of cement. The material testing laboratory is also equipped with machinery for determining strengths of all classes of building material.

The first floor contains the forge shop, the light farm machinery laboratory, the home and miscellaneous laboratory and the farm machinery lecture room. The forge shop is equipped with 24 latest Buffalo forges with a full complement of tools. Adjoining are an instructor's room, tool room, also storage and power room. The light farm machinery laboratory is equipped with latest farm machinery such as seeders, cultivators and light harvesting and storing machinery. The home and miscellaneous laboratory is equipped with

home appliances and machinery for economy and convenience. These include lighting, heating and water supply systems, cooking appliances, drainage and ventilation represented by the models and installations.

On the second floor are located the main offices, two lecture rooms, the freshman drawing and surveying room, the junior drawing room and woodshop.

The woodshop contains 52 benches with a full set of tools, a single surface planer, rip and cut-off saw, matcher and band saw. On this floor is also an instructor's room, tool and supply room and freshman drawing and surveying room containing drawing tables for 50 students, also lockers for drawing tools and a drawing file.

Surveying equipment sufficient to put 10 parties fully equipped in the field, for terracing, levelling, compass surveying and plane table map work is provided. The junior drawing room is equipped with 40 drawing tables with parallel attachments, a full set of models of farm buildings, also models of farm gates, fencing and fencing materials, silos, corn cribs, tool sheds, meat curing and smoke house.

AGRICULTURAL CHEMISTRY LABORATORIES

The courses of instruction offered in this division are designed to prepare students for practical work. The laboratories occupy the west end of the top floor of Agricultural Hall, the main laboratory being well ventilated and lighted from three sides. These laboratories are equipped with new and modern desks, hoods, tables for microscopic work, and apparatus for accommodating one hundred to one hundred and twenty-five students. Adjoining the main laboratory is a well-lighted balance room equipped with accurate balances.

Adjoining the instructor's office is a private laboratory separated from the main laboratory by the store-room. The laboratory is equipped for analysis of soils, feeds, fertilizers, waters, etc.

Each desk in the laboratory is supplied with gas, water and sinks. Ample facilities are offered for students to specialize in the different branches of analytical work, such as soils, feeds and other agricultural products.

A laboratory has been equipped with modern apparatus for analyzing soil types of the state. The chemical division is conducting a soil survey of the state in coöperation with the Bureau of Soils and all types of soil in the several counties surveyed are sent to the laboratory for chemical analyses.

VETERINARY LABORATORIES

Buildings of the veterinary division consist of a main building of two stories and basement, the veterinary hospital, hog house and other small houses. The main veterinary building contains two large class rooms and two large laboratories for class purposes. The basement is used exclusively as a laboratory for manufacturing hog cholera serum. The class room and laboratories are completely equipped with furniture, desks, cabinets, sterilizers, microscopes, incubators, skeletons, models, charts, museum specimens and other articles necessary and useful in the study of veterinary science.

Veterinary Hospital. The veterinary hospital is provided with box stalls for sick animals, bath stall, clinic room, operating room, dissecting room, office and dispensary, and room for attendant. A complete equipment of hopples, side lines, slings, casting harness dental, operating and obstetrical instruments and appliances is provided. Clinics at which sick or injured animals are treated free of charge are held at stated periods during the school year. Students are trained in the diagnosis and treatment of diseased animals, required to prepare and administer medicines by various methods, take proper care, and maintain correct hygienic conditions. Score cards are used for examinations of animals for diseases, unsoundness and blemishes.

The dissecting room is used during the colder months for the study of anatomy and physiology, students being required to dissect and study various parts of farm animals, and observe the location of internal organs, the principal blood vessels, nerve and other structures.

Hog cholera serum is manufactured at the hospital and affords frequent opportunities for autopsies of hogs, and, therefore, a study of contagious and parasitic diseases.

Hog Cholera Serum. The General Assembly of Georgia made an appropriation in 1911 for manufacturing Dorset-Niles hog cholera serum. The manufacture of it continues, being carried on by the veterinary department of the College, that students may be better instructed concerning swine diseases and the manufacture and administration of the cholera serum. The serum is manufactured and supplied at cost to owners of swine through the office of the state veterinarian at the state capitol. The serum plant has been enlarged to meet the increased demand, a modern, sanitary hog house sufficient to house 60 hogs, being added.

FORESTRY LABORATORIES

In conjunction with the division of agricultural engineering the forest division occupies the new agricultural engineering building.

In the basement of this building is located the timber testing laboratory, and the heavy machinery laboratory; the main floor is devoted to the forest museum and laboratories; the light machinery laboratory and the forge shop; the top floor to the drafting rooms, the class rooms and the wood shop.

The work in the chemistry of forest byproducts is given in the well equipped laboratories of the division of agricultural chemistry, while in soils the students have advantage of the special equipment of the division of agronomy laboratories. Courses in botany, physics, economics, business administration are given in the department of the University having to do with those particular sciences.

A section of the college greenhouse is devoted to investigational work in forestry. The greenhouse is of especial value in conducting experiments in connection with the courses in silviculture. The school equipment contains the various instruments necessary for the carrying on of experiments in forest ecology.

Forest Camp. The summer term of the forestry course, during the first two years, is conducted in Forest Camp, located in the Blue Ridge Mountains of north Georgia. Here the students receive their training in the practical aspect of forestry and become acquainted with the forest. During the first summer the work consists of elementary surveying, timber estimating, tree identification and woodcraft. The second summer is devoted to forest mensuration, advanced surveying and mapping and a consideration of specialized methods of reconnaissance. With this training it is possible for a student to obtain employment in his specialization during the junior-senior vacation.

The camp equipment consists of tents and buildings, the tents being supplied with wood floors, cots and ticks. Bedding must be supplied by the individual student. The school equipment of field instruments is very good. The camp library contains works on woodcraft, forestry, nature study and periodicals. The students maintain a camp mess, board on the coöperative plan costing between two and three dollars per week.

POULTRY HUSBANDRY LABORATORIES

The poultry plant is situated on the south side of the campus of the Agricultural College. One building contains the offices, library and exhibit rooms of the division. A two story building contains class room, incubator cellar, egg-testing room, egg-storage room, attendant's room, etc. A brooder house is equipped with the Candee hot-water system and has a capacity of 1,200 chicks. There are five laying houses 24 x 14 feet and one laying house 14 x 130 feet, divided into thirteen pens. In addition there are a number of movable colony houses for growing the young stock on the range. The laying

houses are equipped with hoppers, brooder coops, trap nests, etc. The division has a flock of 800 chickens of the principal breeds adapted to the state.

THE COLLEGE FARM

Contiguous to the grounds of the main building and extending southward for more than a mile, lies the College farm, consisting of 830 acres. The land is of varied character as to physical condition, types of soil and fertility. Some of it is rough and broken, a part fairly level, and a portion well wooded. This diversity admits of tests applicable to types of soils and conditions found in many sections of the state and is, therefore, an advantage.

Previous to being taken over by the College, the land had been rented and handled in a careless manner. No crop rotation system had been followed, very little livestock had been kept, and as a result, the land was eroded in many places and was very generally in poor physical condition. This condition is not unlike that of a vast acreage in Georgia, and it has been of advantage in affording a basis of practical instruction in soil building by crop rotation, the use of legumes, growing livestock, and terracing.

The farm has been surveyed and mapped with a view to the construction of roads, bridges, walks, and additional buildings, as funds become available. A survey has also been made of the soil types, to determine their physical characteristics.

College Barns. As funds have become available the College has erected plain, but substantial barns after plans prepared by the division of animal husbandry and drawn by the agricultural engineering division. Their low cost and general utility have made them popular among farmers. The College has combined its general stock barn and dairy barn which heretofore have been spearate pending the acquirement of sufficient funds to develop this more economical plan. The barn for dairy and general live stock consists of one large hay and grain barn with two stall extensions, modernly equipped for economical feeding and sanitary housing of cattle and horses. The dairy portion is completely equipped for the most careful and scientific handling of the products of the herd.

Two silos, one with a capacity of 150 tons and another of 200 ton capacity are used at the barn.

The division of agronomy has two barns for storage and laboratory work located on the experimental plats. These are completely equipped for the purpose. The horticultural division has a barn on the horticultural grounds, new and well equipped. These and the tool sheds, bull houses, paddocks for young stock, dipping vats for hogs and cattle constitute in the main, the barn facilities of the College.

LIVE STOCK

Dairy Herd. Holstein and Jersey cattle are maintained in the college dairy herd. In 1907 a herd of grade cows was established and headed by a registered bull. In 1908 four registered Jersey cows were purchased and four registered Holsteins. As the heifers came on, the grades were replaced by full bloods so that at the present time there are about 25 registered animals of each breed owned by the College. While these animals are maintained primarily for student instruction and feeding experiments and demonstrations, they have paid a substantial profit from the time the herd was established.

Beef Herd. Such a considerable portion of the college farm is so steep that it is better adapted to grazing than to the production of cultivated crops, and considerable attention is, therefore, being paid to beef cattle. The Shorthorn herd consists of a stock bull and 12 cows of breeding age. They represent both the extreme beef and dual-purpose types. The Hereford herd consists of a herd bull and nine females of breeding age besides several younger heifers and bulls. A few grade Hereford cows are carried for experimental breeding purposes.

Hog Herd. Tamworths, Berkshires and Hampshires are now maintained on the college farm. Plans have been perfected for materially increasing the swine production work and other representative breeds will be added during the present year.

Work Stock. Percheron horses of high quality are being maintained on the college farm. It is believed that they are well suited to the farm needs throughout the state. At the present time the stud consists of a Percheron stallion, two registered mares, two high grade mares, and a stallion and two filly foals. Mules of different types are being used for regular farm work and in stock judging. A total of 26 head of horses and mules are maintained on the college farm.

Horse Breeding. Aside from the registered Percheron mares and the pure bred stallion, and excellent grade mares as a foundation for breeding work on the farm, the college has been able to interest various communities in the state in buying Percheron mares and stallions. When funds are obtained, quite extensive plans will be put in force for assisting the farmers of the state to get better breeds not only of horses but also of beef and dairy cattle.

THE DEMONSTRATION FIELD

A field of twenty-four acres has been set aside for experimental work. This area of land has been subdivided into more than 1,000 plats, ranging in size for 1-50 to 1-10 of an acre. Through the medium of this experimental field, nature is constantly being asked

questions, and new facts of interest are being brought to light by actual field tests; the value of principles and theories developed through laboratory research is determined, and thus the education of the student is made more complete, since he not only receives instruction in theory in the class-room, but has the underlying scientific principles fully demonstrated to him in the laboratory, and sees the actual results which follow the application of these principles in farm practice.

The demonstration field is used for the development of strains of cotton, corn, wheat, oats, barley, rye, and alfalfa, as well as for testing new varieties that will be suitable for growing under Georgia conditions.

The value of crop rotations, relation of fertilizers and manures to crop production and the influence of different methods of cultivation revealed by the demonstration field are not only made a part of the knowledge of the student, but the results are sent, free of charge, to the farmers of the state.

Through coöperation between this institution and the United States Department of Agriculture a special agent in cereal investigation is located at the State College of Agriculture to test varieties of cereals. A part of this work is done on the demonstration field of the college farm and a part is done at substations in Brooks and Turner counties. These results are also available to the farmers of the state.

In connection with the work in Cotton Industry, special plats are set aside for conducting experiments in cotton breeding, both by selection and hybridization, and students are given opportunity to see the results of their own experiments. A test of all the leading varieties of cotton is also conducted. During the growing and harvesting seasons, students are required to write full descriptions of varieties, and be able to distinguish one from another.

A ten-acre tract in Brooks county and a similar area in Turner county are used for experimental work in variety tests for south Georgia conditions.

In twenty-seven other counties of the state, three-acre tracts are used for fertilizer demonstrations.

ORCHARDS AND GARDENS

About thirty-five acres of the college farm have been set aside for horticultural purposes. The land is rolling, and, with the exception of one or two acres of sand, which will serve well for truck crops, the soil is red clay. The field has been plotted and a variety orchard planted, in which all the varieties of apples, pears, peaches, plums and other fruits recommended for this section are well represented, so that a comparative study of their qualities can be made.

As rapidly as funds will permit a truck garden is being developed, experimental plats laid out, and a commercial orchard started. For the benefit of the fruit growers at large, the horticultural grounds will serve as a testing field for all varieties, and also as a laboratory for experiment in and demonstration of all practices of orchard and garden management for the benefit of the student.

STUDENT ORGANIZATIONS

THE AGRICULTURAL CLUB

The students of the College have an organization of their own, known as the Agricultural Club, which meets every week. The purpose of the society is to obtain drill in parliamentary practice, and in declamation and debate, as well as to discuss the scientific and practical phases of many important agricultural problems. The club publishes the "Agricultural Quarterly," which is not only distributed among the students, but is circulated over the state. This publication forms a desirable medium of communication between students and farmers, and furnishes useful literary training to students.

HORTICULTURAL CLUB

The students interested in horticulture have a club which meets semi-monthly for the discussion of live problems in that field of agriculture.

FOREST CLUB

The Forest Club is an organization of the students in the Forest School. Meetings occur regularly on Wednesday evening of each week. The object of the club is four-fold: 1. To keep its members informed on current literature; 2. To give its members opportunity for practice in public speaking and argumentation; 3. To bring its members in contact with men prominent in forestry and allied subjects provided for these men to address the club; 4. To promote good fellowship among the students of the Forest School.

The club publishes an annual treating of technical and popular forestry, which is circulated among the leading lumbermen of the south, the high schools of Georgia, and the forest schools and universities of the United States and Canada.

AGRICULTURAL ENGINEERING CLUB

Students specializing in Agricultural Engineering have formed a club, the object of which is to discuss problems of importance along agricultural engineering lines and to promote social fellowship among the members. The club meets every second and fourth Wednesday night. The program consists of an address by a member of the faculty and two papers read by students.

VETERINARY MEDICAL SOCIETY

The Veterinary Medical Society is an organization of students studying veterinary medicine. Meetings are held on the second and fourth Friday nights of each month, for the discussion of subjects of importance in the course. Special speakers are invited from time to time.

FEES AND EXPENSES

Attention is called to the remarkably low cost of a full collegiate year in the College. By rooming in the dormitories, a young man can live at the University almost as cheaply as at home.

The expenses are as follows:

Room rent in College dormitories, $2.50 per month; this includes electric lights, heavy furniture and care of room. The students provide fuel, mattress, bed furnishings and toilet articles. Board in Denmark Dining Hall costs $13 a month on the coöperative plan. Room rent and board are paid monthly. Furnished rooms in private families may be secured at $3 to $5 or more per month for each occupant.

The Board of Trustees reserves the right to charge a sufficient fee in all laboratories to cover actual expense of materials used and breakages incurred. This fee varies from $2.50 to $5.

For each term in Forest Camp a fee of $5 is charged to cover depreciation in equipment. This fee is collected at the beginning of the University year.

Laundry will cost about $1.25 a month, and books about $12.50 a year. All students are required to join one of the literary societies, the initiation fee being $2.

Uniforms for the military department will cost about $25. These will last two or three years. The U. S. Government will probably defray the costs of these uniforms next year.

In short, the necessary expenses of a student for the college year of nine months, need not exceed $225 to $250.

SELF-HELP

It is the purpose of the College to encourage students to work as much of their time as possible, for both economic and practical reasons. In this way the cost to the student may be reduced considerably, and his knowledge of how to apply scientific principles in farm practice may be materially broadened. It is both important and necessary that labor with the hands should be recognized as honorable and essential to the welfare of an agricultural people.

Students in the College of Agriculture have the same opportuni-

ties of securing help from the Charles McDonald Brown Scholarship Fund as those in other departments of the University at Athens. The interest on this fund is loaned to worthy young men on condition that they obligate themselves to return it with four per cent interest. Application for scholarship should be made to the Chancellor of the University. A special circular of information concerning the fund and blank forms of application will be supplied on request. This fund makes it possible for many young men of limited means to secure an education.

SCHOLARSHIPS

The Georgia Bankers' Association has established a student loan fund. Eight loans to the value of $600 were made in the collegiate year 1917-1918, the condition imposed being that the young men receiving the benefits of this fund shall undertake the repayment of the same with interest at four per cent one year after graduation.

The Southern Railway Company has donated the sum of $1,000 to be known as the Southern Railway Loan Fund: William Wilson Finley Foundation in the Georgia State College of Agriculture. This fund is to be administered on the principle of the Brown fund and the Georgia Bankers' Association fund. Naturally, only one appointment can be made under this foundation for the college year 1917-1918. The only restriction placed upon this fund is that students benefiting by it live in counties traversed by the Southern Railway, Augusta Southern, Tallulah Falls Railway, Georgia Southern and Florida Railway, Macon and Birmingham Railway, or Hawkinsville and Florida Southern Railway.

One scholarship valued at $250, given by H. G. Hastings & Co., Atlanta, Ga., to the boy making the best record in the corn club work for the whole state.

Two hundred scholarships valued at $25 each to the corn club boys' short course to be held in August, 1918.

One hundred scholarships valued at $25 each to the canning club girls' short course to be held in August, 1918.

These short course scholarships have been given by the Georgia Bankers' Association, the State Fair, the Southeastern Fair, by various railroads, boards of trade, chambers of commerce, women's clubs, business men, and many other patriotic citizens.

LIST OF PRIZES, 1917-1918

Junior Scholarship—$50 in gold given by the Virginia-Carolina Chemical Co. to the student showing the greatest proficiency in all agricultural subjects for the college year 1917-1918.

Sophomore Scholarship—$40 in gold given by the Virginia-Caro-

lisa Chemical Co. to the students showing the greatest proficiency in all agricultural subjects for the college year 1917-1918.

Freshman Scholarship—$25 in gold given by the Virginia-Carolina Chemical Co. to the student showing the greatest proficiency in all agricultural subjects for the college year 1917-1918.

One Year Course—$25 in gold given by the Virginia-Carolina Chemical Co. to the student showing the greatest proficiency in all agricultural subjects for the college year 1917-1918.

Trustees' Prize—$25 in gold from the Board of Trustees to the student writing the best essay on "The Effect of the Federal Appropriation for Vocational Education on Southern Agriculture."

$25 in gold given by the American Coal Products Co. to the student writing the best essay on "Sulphate of Ammonia as a Nitrogenous Fertilizer in Mixed Fertilizers, and as a Top Dressing."

$25 in gold given by the Virginia-Carolina Chemical Co. to the student writing the best essay on "The Profitable Use of Fertilizer with Staple Crops."

$25 in gold given by the Cotton Seed Crushers' Association of Georgia to the student writing the best essay on "The History of the Development of the Cottonseed Industry."

$10 in gold given by H. G. Hastings & Co. to the student writing the best essay on ,'The Importance of the Home Garden."

$10 in gold given by H. G. Hastings & Co. to the student writing the best essay on "The Influence of the Early Velvet Beans on Soil Fertility."

$10 in gold given by H. G. Hastings & Co. to the student writing the best essay on "Increasing the Yield of Small Grain by Seed Selection."

TERMS OF ADMISSION

BACHELOR OF SCIENCE IN AGRICULTURE

BACHELOR OF SCIENCE IN AGRICULTURAL EDUCATION

An applicant for either of the above courses must be sixteen years of age and must present on entrance 14 units, as specified below. No conditions are allowed, but the applicant is permitted in certain cases to offer two elective units in lieu of the required two units of foreign language, this work being taken later. Both courses require two years of actual farm experience prior to graduation.

BACHELOR OF SCIENCE IN FORESTRY

Forestry students must be sixteen years of age on entrance and must present 14 entrance units, as specified below. Attendance upon a summer forest camp is considered a part of the course.

DOCTOR OF VETERINARY MEDICINE

An applicant for the degree of D.V.M. must be seventeen years of age and must present upon entrance 14 units, as specified below. No farm experience is required.

BACHELOR OF SCIENCE IN HOME ECONOMICS

An applicant for the B.S.H.E. degree enters the junior class. Sufficient maturity and ability to do the required work must be shown. Graduation from one of the state normal schools or from an institution of similar rank having well developed departments of home economics, is required for entrance. An applicant may present 14 units, as specified below, and two years of college work. The two years of college work must include 6 credit hours of English, 3 credit hours of Chemistry, 3 credit hours of Physics, 6 credit hours of Home Economics, 6 credit hours of Education and Educational Psychology, 2 credit hours of Elementary Drawing and Design, and 10 hours of electives—a total of 36 credit hours.

MASTER OF SCIENCE

An applicant for the degree of M.S. must show sufficient maturity and ability to do the required work. A reputable baccalaureate degree is required.

ONE-YEAR COURSE IN AGRICULTURE

An applicant for the one-year course in agriculture must be eighteen years of age and must have had some farm experience prior to application for entrance. The purpose of this course is to provide suitable instruction for those who can remain in college only one year.

*ENTRANCE UNITS

Admission to any four-year degree course requires 14 units which may be offered as follows:

English	3	Foreign Language	2
Algebra	1½	History	2
Geometry	1	Electives	4½

Not more than 4½ elective units may be selected from the following: Solid Geometry, ½; Agriculture, 3; Physical Geography, 1;* Drawing, 1; Physics, 1; Physiology, ½; Botany, 1; Zoölogy, 1; Chemistry, 1; *Manual Training, 2; *Commercial subjects, (Typewriting, Shorthand, etc.), 2; Additional—History, Mathematics, English, or foreign language, each 1.

Entrance examinations will be held in Athens and throughout the state in June and September.

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*Entrance units will be accepted from accredited schools only.

*Not more than three units will be allowed on freehand drawing, manual training and commercial subjects.

ENGLISH (three units)

Three units may be offered in English. The basis for these units is as follows:

Rhetoric and composition_____1 unit.
Books for careful study_____1 unit.
Books for general reading_____1 unit.

Books for careful study. One book is to be selected from each of the four groups. **Drama:** Shakespeare's Julius Caesar, Macbeth, Hamlet. **Poetry:** Milton's Allegro, Il Penseroso, and either Comus or Lycidas; Tennyson's The Coming of Arthur, The Passing of Arthur, and The Holy Grail; selections from Wordsworth. Keats and Shelley. **Oratory:** Burke's Speech on Conciliation with America; Macauley's Speeches on Copyright; Lincoln's Cooper Union Speech; Washington's Farewell Address; Webster's Bunker Hill Oration. **Essays:** Carlyle's Essay on Burns; Selections of Burns' Poems; Macaulay's Life of Johnson; Emerson's Essay on Manners.

Books for general reading. At least two books are to be selected under each of the five groups as follows:

Classics in Translation. The Old Testament, comprising at least the chief narrative episodes in Genesis, Exodus, Joshua, Judges, Samuel, Kings, and Daniel, together with the books of Ruth and Esther. The Odyssey, with the omission, if desired, of Books I, II, III, IV, V, XV, XVI, XVII, Bryant's Translation. The Iliad, with the omission, if desireed, of Books XI, XIII, XIV, XV, XVII, XXI; Bryant's Translation, complete. The Aeneid. For any selection from this group a selection from any other group may be substituted.

Shakespeare. Midsummer Night's Dream; Merchant of Venice; As You Like It; Twelfth Night; The Tempest; Romeo and Juliet; King John; Richard II; Richard III; Henry V; Coriolanus; Julius Caesar, Macbeth, Hamlet, if not chosen for study.

Prose Fiction. Malory's Morte d'Arthur; Bunyan's Pilgrim's Progress, Part I; Swift's Gulliver's Travels (voyages to Lilliput and to Brobdingnag); Defoe's Robinson Crusoe, Part I; Goldsmith's Vicar of Wakefield; Scott: any one novel (e. g. Ivanhoe, Quentin Durward). Scott's Waverly Novels; Jane Austin: any one novel; Dickens: any one novel (e. g., A Tale of Two Cities). Thackeray: any one novel (e. g., Henry Esmond). George Eliot: any one novel (e. g., Silas Marner); Mrs. Gaskell's Cranford; Kingsley's Westward Ho! or Hereward the Wake; Reade's The Cloister and the Hearth; Blackmore's Lorna Doone; Hughes's Tom Brown's School Days; Stevenson: any of the novels; Cooper: any one novel (e. g., The Spy; The Last of the Mohicans). Poe's Selected Tales; Hawthorne:

any of the novels (e. g., The House of the Seven Gables; The Marble Faun).

Essays, Biography, Etc. Addison and Steele's The Sir Roger de Coverley Papers, or Selections from Tatler and Spectator; Boswell's Selections from the Life of Johnson; Franklin's Autobiography; Irving's Selections from the Sketch Book, or the Life of Goldsmith; Southey's Life of Nelson; Lamb's Selection from the Essays of Elia; Lockhart's Selections from the Life of Scott; Thackeray's Lectures on Swift, Addison, and Steele (in English Humorists). Macaulay; one of the following essays: Lord Clive; Warren Hastings; Milton; Addison; Goldsmith; Frederic the Great; Madame d'Arblay; Trevelyan's Selections from Life of Macaulay; Ruskin's Sesame and Lilies, or Selections; Dana's Two Years Before the Mast; Lincoln: Selections, including at least two Inaugurals, the Speeches in Independence Hall and at Gettysburg, the Last Public Address, and Letter to Horace Greely. Other books of like rank may be offered.

Poetry. Selected Poems by Dryden, Gray, Cowper, Burns, Collins. Selected Poems by Wordsworthh, Keats, Shelley, if not chosen for study. Goldsmith's The Traveller, and the Deserted Village; Pope's The Rape of the Lock; Coleridge's The Ancient Mariner, Christabel and Kubla Khan; Byron's Childe Harold, Canto III; or Childe Harold, Canto IV, and the Prisoner of Chillon; Scott's The Lady of the Lake, or Marmion; Macaulay's The Lays of Ancient Rome; Browning's Cavalier Tunes; Arnold's Sohrab and Rustrum, and the Forsaken Merman; Selections from American Poetry—with special attention to Poe, Lowell, Longfellow and Whittier. Other poems of like rank may be offered.

HISTORY

Ancient History (1 unit). Special attention to Greek and Roman history, but including also a short introductory study of the more ancient nations and the chief events of the early middle ages down to the death of Charles the Great (814 A. D.)

European History (1 unit). From the death of Charles the Great to the present time.

English History (1 unit).

American History and Civil Government (1 unit). The study of a more recent high school text in each and not a grammar school history.

General History may be counted as a unit, but not in addition to ancient or medieval and modern history.

MATHEMATICS

Algebra to quadratics, 1 unit.

Plane Geometry, 1 unit.

Algebra, quadratics and beyond, ½ or 1 unit.
Solid Geometry, ½ unit.
Plane Trigonometry, ½ unit.

FOREIGN LANGUAGE

Two units in foreign language may be offered. A unit of foreign language is a full year's work in an accredited high school in French, Spanish, Latin, Greek or German.

PHYSICS (one unit)

The unit in Physics consists of at least 120 hours of assigned work. Two periods of laboratory work count as one of assigned work.

The work consists of three closely related parts, namely, class work, lecture-demonstration work, and laboratory work. At least one-fourth of the time should be devoted to laboratory work.

Note: Where students have the proper training in class work and lecture-demonstration, but cannot have access to a laboratory for individual experiments, a half unit will be allowed.

CHEMISTRY (one unit)

The course should consist of at least three recitations and two hours of laboratory work weekly throughout the year.

PHYSICAL GEOGRAPHY (one unit)

The equivalent of work as presented in recent texts, with about forty laboratory lessons.

BOTANY (one unit)

The course should be based on one of the modern high school text-books. Special emphasis should be laid on the laboratory work which should consist of work in both the structure and physiology of plants.

PHYSIOLOGY (one-half unit)

Study of a recent standard text-book with some laboratory work. A study of muscles of chicken leg, a heart, bones, lungs, eye, brain, and one dissection of small animal should be made by each of two or four pupils. This study should come in second year of high school, preferably, and in connection with Botany or Zoölogy or in a combined text as Biology (1 unit).

ZOOLOGY (one unit, one-half unit)

A study of modern text and laboratory study of ten types for one unit, or five types for one-half unit. The study should come best in the second year of the high school and should consist of two classroom exercises and at least two laboratory double periods.

AGRICULTURE (three units)

To receive college entrance credit, a one year's course should consist of three recitation periods and two double laboratory periods per week extending through one school year.

Where one year's work only is offered, the course in Agriculture is to be a general course, covering the fundamentals of soil, plants, animals, farm management and rural economics.

COMMERCIAL GEOGRAPHY (one-half unit)

One-half unit devoted to a comparative study of the industry and commerce of the leading nations, with emphasis on the industry and commerce of the United States.

MANUAL TRAINING

Free Hand Drawing, ½ to 1 unit.

Mechanical Drawing, ½ to 1½ units (conditioned upon an equal amount of Geometry with it).

Shopwork, ½ to 5½ units, approximately distributed as follows, and the total accepted from any student being not more than twice the value of the Mechanical Drawing accepted from him. Benchwork in Wood ½ unit, Cabinet Work 1 unit, Wood Turning ½ unit, Pattern Making ½ unit, Forging 1 unit, Machine Work in Metal 1 unit, Foundry Work 1 unit. The time required for each unit is to be not less than 240 sixty-minute hhours; all Shopwork, except Benchwork in Wood, to have periods of not less than sixty minutes each.

BOOKKEEPING AND BUSINESS ARITHMETIC (one unit)

The minimum time for one unit should be 240 hours, of sixty minutes.

No credit should be allowed unless the work is done neatly, accurately, and at a satisfactory rate of speed. All work should be done in the class room under the eye of the instructor. Definitions of double entry terms, with rules for debit and credit, kinds and uses of books. Conduct of a set including the journal, cash book, sales book; closing of books. Single entry set: changing from single to double entry. Text-book, with exercises so arranged that no two students will do exactly the same work.

STENOGRAPHY AND TYPEWRITING (one unit)

Shorthand. It is recommended that a minimum of one and one-half years be given to the study of Shorthand. Pupils completing the course should be able to write in shorthand prose dictated at the rate of 60 words a minute, and be able to translate the notes correctly on the following day. For this one and one-half units should be allowed.

Typewriting. To typewriting one year should be given. If at the end of the year the pupil can typewrite without error forty words a minute, a credit of one-half a unit should be given.

Bookkeeping. The course in bookkeeping should be the simple form in single and double entry bookkeeping, and should continue for one year, for which a credit of one unit should be given.

Commercial or Business Arithmetic. The course should cover one year, for which a credit of not more than one unit should be given.

METHODS OF ENTRANCE

All applicants must have been successfully vaccinated or must be vaccinated before they register.

Entrance Following Examination. Those who plan to enter by examination will receive entrance cards from the Entrance Committee in the Faculty Room, Academic Building, as soon as they have made the necessary units.

Entrance in Advance. Applicants planning to enter by certificate will be saved much trouble and annoyance and possibly delay by having their certificates mailed by the principal of the school in advance to the Entrance Committee as soon as they have decided to make application. All preliminary adjustments can be made by correspondence, at the close of which the successful applicant will be in possession of an entrance card which he will need merely to present to the Dean of the College or department in which he is to enroll.

Entrance on Registration Days. Those who have not sent in their certificates or who have certain deficiencies to remove and desire a personal interview, will find the Entrance Committee in the Faculty Room, Academic Building. As rapidly as possible the committee will go over the certificates and send the successful applicant to the proper Dean for registration. Applicants are not admitted on "probation" or "trial," or on "the promise of certificates later," or on "diplomas" or general "letters of commendation." They must stand the examinations or submit the official certificates. Applicants from a distance should, before coming to the University, await assurance that their credentials will be accepted and are sufficient for admission.

BACHELOR OF SCIENCE IN AGRICULTURE

INTRODUCTION

The four-year Bachelor of Science course provides for a liberal and thorough training along scientific lines in agronomy, soil fertility, animal husbandry, veterinary medicine, dairy husbandry, horticulture, forestry, agricultural engineering, cotton industry, poultry husbandry, and plant pathology. The course is practical. General training in chemistry, physics, botany, biology, English and mathematics is also provided. Since the field of agricultural education is so broad that it is quite impossible for a student to pursue all the courses offered in four years, certain fundamental studies are prescribed, and the largest liberty of selection commensurate with the best interests of the student, is permitted. In this way the student is enabled to select a course which is in keeping with his taste, and at the same time obtain sufficient special training to fit him for the line of work he desires to pursue after graduating.

Outline of Course

Freshman	Hrs.	Sophomore	Hrs.
Agronomy 1, 2	2	Animal Husb. 2, 3, 4 and 5	3
Animal Husbandry 1	1	Botany 1	3
Agr. Eng. 1, 2, 3, 4, 5	3	Agr. Chemistry 2b	3
Horticulture 1, 2 and 3	3	History 4a, or 2a and Economics 1	3
Poultry Husbandry	1	English 2	3
English 1	3	Physics 2	3
Chemistry 1	3	Agronomy 5, 6	3
Mathematics 1 and 2	3		
Military Science	1		
	20		21

The division of the time in the junior and senior years shall be as follows:

	Hrs.
Major	12
Minor, group 1	6
Minor, group 2	6
Gen. Elective	12
	36

Total requirements for a degree, exclusive of military science, but including laboratories, will be 75 hours. Not more than 21 hours can be taken from any one department in the junior and senior years. Major courses may be selected from the departments of agronomy, animal husbandry, horticulture, agricultural chemistry and agricultural engineering.

Elective Courses. It is urged that the student give particular attention to his elective courses, selecting those courses that give the broadest training commensurate with special work in a department.

Group 1 (6 hours required)

Agricultural Chemistry	Physics
Botany	Mathematics
Zoölogy	

Group 2 (6 hours required)

Animal Husbandry 6, 7	Entomology
Agronomy 3	Forestry
Veterinary Science	Geology
Agr. Engineering 6, 7, 8, 9	Horticulture 10
Bacteriology 1, 3	Poultry Husbandry

Not later than the beginning of the junior year the student must submit a program written on a prescribed form for the schedule of work in the junior and senior years, showing his majors and minors, as well as his general electives. This program must be approved by the head of the department in which he takes his major.

Foreign Language. Students who do not present two units of a foreign language at entrance may take a foreign language in the freshman and sophomore years, and carry over mathematics and physics into the junior and senior years.

Those desiring to study medicine may continue the study of French and German in the junior and senior years, and thus prepare themselves for entrance into the highest grade medical schools of the United States.

Laboratory Periods. In the College of Agriculture two laboratory hours count as one hour of recitation, and are included on that basis in the number of hours required.

AGRONOMY

JOHN R. FAIN, Professor.
G. A. CRABB, Junior Professor.
L. E. RAST, Junior Professor.
G. C. SCHEMPP, Adjunct Prof. Farm Management.
P. O. VANATTER, Instructor.
*R. R. CHILDS, Scientific Assistant.
C. L. VEATCH, Field Agent.
FRANK WARD, Field Agent.
*J. V. PHILLIPS, Senior Drainage Engineer.
M. W. H. COLLINS, Instructor.

1. **Cereals.** The cereals studied include wheat, corn, oats, barley, rye and rice; sorghum, millet and buckwheat are studied briefly in so far as the grains are used for food. The study of these cereals

include the origin, history, composition, cultivation and methods of improvement. In addition to text-book work, the cereals are grown in nursery rows convenient to the College, so that the student may study the plants first hand. The demonstration field is also used for the same purpose. Two hours. Second and third term. Freshman. *Professors Fain* and *Rast.*

2. **Cereal Judging.** This is a laboratory course. The study begins with the seed and continues with the study of the mature plant and its relation to seed production. A part of this work is in the field and a part in the demonstration barn, so that the student is taught not only the various facts in regard to the development of the cereals, but he acquires the habit of studying these plants in the field. The demonstration field and cereals grown in nursery rows form excellent facilities for this work. The germination of corn is given especial attention, and the records in the demonstration field are used in this connection, showing the relationship between the germination and growth of the varieties tested. One laboratory period. Second and third term. Freshman. *Professors Fain* and *Rast.*

3. **Farm Management.** Factors entering into the business of farming and maintaining farm lands are studied in their relations to each other. Special attention is paid to ways of systematizing the business, and methods of maintaining crop production of the land. In this connection a detailed study is made of rotations as adapted to Georgia conditions. Laying out the farm, methods of cropping, and records are studied. The cost of production and marketing is given special attention. The laboratory work will consist of conferences in which the results summarized from investigation by the student will be discussed. The student will be required to use "Rural Economics," by Carver, for parallel reading. Other reading assignments will be made from time to time. Two lectures and one laboratory period. Junior. *Professor Fain.*

3*a*. **Farm Management.** A special course for senior students in Agricultural Education. See description under Agricultural Education.

*4. **Grasses and Forage Crops.** The different varieties of grasses and forage crops are studied with reference to their yield, composition and feeding value. Special attention is paid to those grasses and forage crops that are adapted to southern conditions. As silage is undoubtedly the cheapest form in which forage crops can be prepared in this state, considerable attention is given to the crops best adapted to silage, the best method of handling the crop and harvesting it. This course alternates with "12" and "13." Given

*In coöperation with U. S. Department of Agriculture.

in 1918. Two lectures and one laboratory. Junior. *Professor Fain.*

5. **Soil Physics.** A study is made of the origin of soils, the different forms of disintegration, and the physical properties of different types, especially in their relation to crop production. Laboratory experiments are required with type soils. Each student may substitute his home soil for one of the types. This should be an average sample, taken from several places of the most uniform type from his home farm and community. In addition to the text, parallel reading will be assigned. Two lectures and one laboratory period. First half-year. Sophomore. *Professor Crabb.*

6. **Soil Fertility.** Factors in crop production and methods of controlling these are studied with especial attention to the influence of culture and fertilizing. Methods of managing the soil, to permanently increase fertility, rather than for temporary crop production, are emphasized. Special attention will be given to the uses of commercitl fertilizers and general soil management. Parallel reading will be assigned. Two lectures and one laboratory period. Half year. Sophomore. *Professor Crabb.*

*7. **Soil Formations.** This course will include a study of the soil provinces of the United States, their origin and methods of formation, soil series and types and their relation to crop adaptation, with especial attention given to southern soils and conditions. Parallel reading will be required. Prerequisite, Agronomy "5" and "6." *Professor Crabb.*

8. ***Drainage and Irrigation.** The history and development of drainage and irrigation, their economic relation, the principles and practices of each as applied to southern soils. Parallel reading required. One term. Two lectures and one laboratory period. Prerequisite, Courses "5" and "6." Juniors and seniors. *Professor Crabb.*

*9. **Soil Management.** A study will be made of the principal soil types of the South and especially of Georgia, the object being to determine the value of plant food taken from the soil by various crops and to plan methods for increasing soil fertility and establishing systems of permanent agriculture. Laboratory studies will be made in the green house by pot tests and soil solutions of the principal types of the state. Parallel reading required. Prerequisite, Agronomy "5" and "6." Two lectures and one laboratory period. This course will be given this year and in 1919, and will alternate with Agronomy "10." *Professor Crabb.*

*10. **Fertilizers and Manures.** This course will include the history and the development and production of the various materials used to increase crop growth. Source, manufacture, application and effect of the different materials will receive especial attention. Laboratory work will be carried on in the green house to study the effect of the different fertilizing materials on plant growth. Parallel

reading required. Prerequisite, Agronomy "5" and "6." Two lectures and one laboratory period. Juniors and seniors. This course will alternate with Agronomy "9," and will be given in 1918. *Professor Crabb.*

11. **Seminar.** An opportunity for students to keep in touch with the progress in agronomy will be given in this course. Current periodicals and recent books will be reviewed. One two-hour period. Seniors. *Professors Fain, Crabb* and *Rast.*

*12. **Weeds.** Weeds prevalent in the various sections of the state will be studied with reference to their habits of growth, crop relationship and means of eradication. Time of growth, seed habits, and means of seed distribution will be given especial attention. Students will be required to make a collection of weeds and their seeds, and classify them. This course will be given only in connection with Agronomy "13," and will alternate with Agronomy "4." Two lectures and one laboratory period. Given in 1919. One-half year. Senior. *Professor Fain.*

*13. **Seeds.** Seeds will be considered relative to their structure, production, vitality, purity, commercial grades, centers of production, and market variations. Two lectures and one laboratory period. Given only in connection with number "12" and alternating with number "4." Given in 1919. One-half year. Senior. *Professor Fain.*

*14. **Farm Crops.** This course is designed to give the students an opportunity to continue the study of cereals as well as to consider crops especially adapted to the state. Experiment station literature will be freely consulted. The records of the College field work will be given especial attention. Definite problems with one or more of these crops will be given the students. Two lectures and one laboratory period. Senior. *Professor Fain.*

COTTON INDUSTRIES

L. E. RAST, Junior Professor of Agronomy, in Charge of Cotton Industries.

1. Special students who wish to take work in cotton industry will be given an opportunity to become familiar with the literature of cotton. The instructor will meet with such students once a week for conference and direction. Experiment station work in this country will receive especial attention. *Professor Rast.*

2. **Field Work for Special Students.** Field work conducted by this department gives students opportunity to get first hand information from the experiments under way. The records of the field for some years are also available. *Professor Rast.*

3. **Production of Cotton and other Fiber Crops.** Varieties, meth-

ods of selection, planting, culture, harvesting, and marketing of the cotton crop will be considered in detail. As a matter of comparison with the cotton crop, other fiber crops will be considered. The laboratory work consists of combing, mounting, testing fibres, and grading, as well as a considerable amount of field work. Junior or senior. Two lectures and one laboratory. *Professor Rast.*

4. **Plant Breeding.** A general course in the principles of breeding. While especial reference is made to the technique in cotton breeding the breeding of other farm crops for improvement is also given important consideration. This course also includes the principles of breeding farm animals to meet the needs of students in animal husbandry. Text: "Principles of Breeding," Davenport. Supplemented by references. First half-year. Two lectures, one laboratory. Junior and senior. *Professor Rast.*

5. **Plant Breeding.** An extension of the above course which is prerequisite. A study of the methods used by the best plant and animal breeders will constitute the greater portion of this course. A certain amount of practice both in field and green house is required of each student. Two lectures and one laboratory period. Second half-year. Junior and senior. *Professor Rast.*

*6. **Agricultural Colleges and Experiment Stations.** This course will include the history and development of the land-grant colleges and experiment stations in the United States and their relation to the advancement of agriculture, also a review of the development along similar lines in other countries. Especial attention is given to present methods in experiment station work. Three hours. One-half year. Seniors. *Professor Fain.*

7. **Research.** Cotton Industry "4" and "5" are prerequisite for this course. Further consideration is given to plant breeding in which opportunity is offered for the study of cytology of cotton and the cytological aspect of cotton breeding. Text, Punnett's "Mendelism." One lecture and two laboratory periods. First half-year. Seniors. *Professor Rast.*

8. **Biometry.** Students have special work in correlating characters of the cotton plant. The various lines of breeding carried on at the College afford an opportunity for a study of statistical methods. One lecture, two laboratory periods. Second half-year. *Professor Rast.*

9 and 10. **Cotton Industry.** Cotton grading, warehousing and marketing. Experimental cotton breeding. Three-hour credit. Fee, $5. *Professor Rast.*

Note: The following courses will not be given unless as many as five students are registered for them: Agronomy "4," "7," "8," "9," "10," "11," "12," "13," "14;" Cotton Industry, "6."

ANIMAL HUSBANDRY

MILTON P. JARNAGIN, Professor.
O. T. GOODWIN, Adjunct Professor.
*C. A. MARTINI, Field Agent.
*JAMES E. DOWNING, Pig Clubs.
*G. L. BIGFORD, Assistant Beef Cattle.
*L. H. MARLATT, Scientific Assistant.
*LAWSON WILSON, Agent of Testing Association.

1. **Types and Market Classes of Live Stock.** Various types and grades of live stock are considered from the standpoint of adaptation to local conditions and market demands. It includes a consideration of the value of beef type in beef making, the American market classification, stock classes and grades of cattle and breeding for the market. The dairy type is considered with reference to function of milk secretion, variation in the usefulness of dairy cows, breeding for milk production and for dual-purposes.

The lard and bacon type of hogs are studied, also the market demands. The mutton type, sheep markets and breeding for market demands are given consideration. Important factors in horse production and the market demands for various classes are studied. Two one-hour recitations and one two-hour laboratory period. First term. Freshman. *Professor Jarnagin.*

1a. Special course for junior forestry course.

2. **Horses, Mules and Beef Cattle.** In this course the origin, history and development of the various breeds of horses and beef cattle are studied. The adaptation of the various breeds and types to different conditions of soil, climate and environment is considered. A comparison of draft and light horses is made, and especial emphasis is laid on the adaptation of the different types of horses and mules to various kinds of work. Two one-hour recitations each week. First term. Sophomore year. *Professor Jarnagin.*

3. **Dairy Cattle.** In this course the origin and utility of the several breeds of dairy and dual-purpose cattle are studied. Their adaptation to the production of milk, butter, cheese, or to both milk and beef making are carefully considered. A comparison of the profits derived from the various breeds under different conditions of farming forms an important part of the instruction provided. Two one-hour recitations each week. Second term. Sophomore year. *Professor Jarnagin.*

4. **Sheep and Swine.** This course embraces a study of the history and development of the various breeds of lard and bacon hogs, both of English and American origin. Especial attention is given in this

*In Coöperation with United States Department of Agriculture.

course to types of hogs suited to grazing. The history of the various breeds of sheep is taken up, and comparison of the several classes made. Special emphasis is laid on growing and marketing lambs and on classifying wool. Two one-hour recitations. Third term. Sophomore year. *Professor Jarnagin.*

5. **Stock Judging.** The students receive training in the use of the score card for various classes of live stock, and study the standards of excellence as established by the several breed associations. In addition to this, they are given practical work in comparative judging and show-ring placing of various breeding and market classes of horses, dairy and beef cattle, bacon and lard hogs and fine, medium and long wool sheep. Two two-hour laboratory periods each week. First, second and third term. Sophomore year. *Professor Jarnagin.*

6. **Live Stock Production.** This course is designed for students specializing in animal husbandry and deals especially with the production of hogs, beef cattle and horses, and includes a consideration of the adaptation of the beef breeds and specific needs. The principles of breeding, feeding and general management are studied. The laboratory work will consist of advanced live stock judging and preparation for the show or sale ring. Practical work will be given in laying out the necessary yards, paddocks and housing facilities for the various classes of live stock. Prerequisite, A. H. 2, 3, 4, and 5. Two one-hour recitations and one laboratory period. Junior year. *Professor Goodwin.*

7. **Principles of Dairying.** This course includes the theoretical and applied side of dairy and creamery practice. A detailed study is made of the theory of milk secretion, formation and production; separation of cream by the shallow and deep setting systems, and by the use of centrifugal machines; the natural fermentations occurring in milk, their benefit and control; the manufacturing of butter; the testing of milk and its products of butter fat. Prerequisite, A. H. 2, 3, 4, and 5. One lecture and two laboratory periods per week. Fall term. *Professor Goodwin.*

8. **Principles of Breeding.** The principles of breeding include a consideration of selection, heredity, atavism, normal variation and fecundity. The methods of breeding studied include in-breeding, line-breeding, cross-breeding, and a review of the methods by which the best types of animals have been developed. Three one-hour recitations. Senior year. *Professor Jarnagin.*

8a. **Principles of Breeding.** This course is designed for sophomore veterinary medicine students. It deals with heredity, selection, atavism, variation and cross-breeding. A study of the pedigrees of phenomenal animals and methods and principles followed by the

best breeders are studied. Three recitations per week, first term. Sophomore year. *Professor Jarnagin.*

9. **Animal Nutrition.** In this course a study of the gross anatomy and physiology of the digestive system is included. The theoretical and practical side of compounding balanced rations for maintenance, milk and butter production, fattening and growth are fully explained. Three recitations per week. Senior year. *Professor Jarnagin.*

10. **Advanced Work in Animal Nutrition.** This course is provided for advanced students in animal husbandry. The results of feeding tests at the various experiment stations and agricultural colleges in this and other countries are reviewed. Three one-hour recitations per week. First term. Senior year. *Professors Jarnagin* and *Goodwin.*

11. **Feeding Problems.** Qualified students are allowed to assist in conducting feeding tests, keeping records and summarizing results of experimental feeding conducted by the division of animal husbandry. They will also be expected to make analyses of the various feeding stuffs used and to determine the fertilizing value of the excreta obtained from various classes of farm animals. Three one-hour recitations per week. Second term. *Professors Jarnagin* and *Goodwin.*

12. **Economics of Animal Production.** In this course the various types and breeds of livestock are considered in their relation to the utilization of various farm crops, the productiveness of the soil and the creation of wealth in general. Three one-hour recitations per week. Third term. *Professors Jarnagin* and *Goodwin.*

13. **Research Work in Animal Husbandry.** Qualified students are allowed to carry on investigations in animal husbandry under the approval and direction of the professor in charge of the department. Three hours. Senior. *Professors Jarnagin* and *Goodwin.*

14. **Dairy Manufacturing.** This course is a continuation of "7" and deals specifically with creamery problems. It includes butter making with power machinery, ice cream manufacturing, butter judging, creamery machinery and creamery management. Two laboratories and one recitation. Second and third term. Junior. *Professors Jarnagin* and *Goodwin.*

15. **Milk Production and Dairy and Farm Management.** This course includes advanced judging of dairy cattle, the breeding, feeding and management of dairy cattle and marketing of dairy products. Two recitations and one laboratory throughout the senior year. *Professors Jarnagin* and *Goodwin.*

16. **Home Dairying.** A course for students taking Home Economics. For description see page 82. *Professor Jarnagin.*

17. **Feeds and Feeding.** A course for students taking Vocational Agriculture. For description see page 68. *Professor Jarnagin.*

AGRICULTURAL CHEMISTRY

W. A. WORSHAM, Jr., Professor.
L. M. CARTER, Junior Professor of Soil Chemistry.
D. D. LONG, Junior Professor in Charge Soil Survey.
M. W. LOWRY, Adjunct Professor of Soil Chemistry.
W. O. COLLINS, Instructor.
C. N. WILDER, Tutor.

1. **Organic Chemistry.** This course consists of the study of the classification and relation of the carbon compounds, and the preparation of the simpler and more important ones.

Stress will be laid on those compounds relating more directly to agriculture, such as carbohydrates, proteins and fats.

The physiological chemistry of plants and animals will be studied dealing mainly with the general subjects of food and nutrition as applied to both animals and plants and photosynthesis in plants.

The animal fluids, milk, blood and urine will be studied in detail.

Students taking this course must have had Inorganic 1 or 2 including work in laboratory.

Organic Agricultural Chemistry by Chamberlain will be used as a text.

Two hours of lectures and recitations, and one laboratory period for three terms.

Optional for juniors and seniors. Required of Forestry and Veterinary students during sophomore year. Fee, $5. *Professor Worsham.*

2b. **Qualitative Analysis.** In this course a study is made of the characteristic properties and reactions of the common metals and acid radicals. The principles involved in the separation of the groups and the individual metals of the respective groups are studied in the laboratory. By systematic work with known substances and then with unknown substances the student will be able to familiarize himself with processes employed in qualitative analysis. The course is planned to enable the student to determine the composition of ordinary substances especially those that are of most importance in agriculture. One lecture and two laboratory periods during the sophomore year. Fee, $5. *Professor Worsham.*

3. **Quantitative Analysis.** The object of this course is to prepare the student for special work in agricultural chemistry as well as to teach the method of quantitative analysis.

The methods of both gravimetric and volumetric analysis will be treated in lectures and the practice carried out in the laboratory. Substances of known percentage composition will first be analyzed and then substances of unknown composition, including the simpler agricultural products. Texts: "Elementary Quantitative Chemical

Analysis," Lincoln and Walton. Reference books, "Quantitative Analysis," by Treadwell, Olsen and Frasenius. Two lectures and recitations and seven laboratory periods for three terms.

3b. Same as course "3," except that students not specializing in chemistry, have one hour of lectures and recitations and two laboratory periods. Optional for juniors and seniors. Fee, $5. *Professor Worsham.*

4. **Advanced Quantitative Analysis.** The basis of the work in this course will be the study of the methods employed in soil investigations, the analysis of soils, fertilizers, feeds, waters, etc. Some latitude is allowed the student as to the substances to be analyzed. Students taking this course must have had Agricultural Chemistry "3." Work for laboratory will be outlined and standard references given.

Two hours of lectures and recitations and seven laboratory periods for three terms during senior year.

4b. Same as course "4," except that students not specializing in chemistry have one hour of lectures and recitations and two laboratory periods. Optional for seniors. Fee, $5. *Professor Worsham.*

5. **Chemistry of Forestry Byproducts.** This course consists of the detailed study of the chemical byproducts of the forest, destructive and steam distillation, the mechanical and chemical processes of paper manufacture from wood, the production of turpentine and rosin, the production of wood alcohol, acetic acid, creosote, and the possibility of further utilization of sawmill waste. Six hours during the third term of junior year. Required of forestry students. Fee, $5. *Professor Worsham.*

A deposit of $5 will be required for each laboratory course to cover breakage of apparatus and chemicals used. If any of this amount is left it will be returned to the student at the end of the year.

AGRICULTURAL ENGINEERING

LEROY C. HART, Professor.
E. G. WELCH, Adjunct Professor.
*W. A. BURNS, Field Agent.
S. R. KIRK, Foreman.

1. **Shop Work (a). Wood Work.** This course is designed for the instruction of the student in the use, care and sharpening of all wood-working tools. A carefully planned series of exercises are offered. These exercises bring into use all tools that will be helpful to the student in after life. An advanced course in woodwork

*In Extension Service.

planned for students having had the preliminary work, will be given. This course will consist of the design and building of furniture and other articles for the home. (b) **Forge Work.** This work is designed to familiarize the student with the building and care of coal fires, the manufacture of iron and steel, and to familiarize him with the working and handling of iron and steel. Tool-making and tempering will be given. Required of freshmen. One hour credit. *Professor Welch* and *Mr. Kirk.*

1b. **Forge Shop.** This course is especially designed for students taking the Agricultural Education degree, and leads to the taking up of project work in the junior and senior years. One hour credit, freshman. *Professor Hart.*

2. **Drawing.** Sufficient time will be devoted to free-hand drawing to enable the student to execute readily the necessary drawings in the various laboratory courses. Instrumental drawing will then be taken up so that the student may become familiar with the use of the instruments and be able to execute rapidly and neatly any drawing of this kind that will be required. Freshman year. *Professor Welch.*

2a. **Forest Drawing.** Special drill in drawing topographical maps, using all topographical signs employed in topographic survey. This course is for forestry students, but may be elected by advanced students. Prerequisite Agricultural Engineering "2." *Professor Hart.*

2b. **Work Shop.** This course deals with the sharpening and maintenance of woodworking tools and machinery, and leads to the manufacturing of all household conveniences. It also leads to the erection of all small and large buildings on the farm. One hour credit, freshman. *Professor Hart.*

3. **Farm Machinery Judging.** A study will be made of the construction and use of the various farm machines, such as are used for preparing, planting, cultivating, harvesting, storing and for home and miscellaneous machinery. Each group will be taken up separately, studied and judged. Required of freshmen. *Professor Welch.*

3b. **Drawing.** Both free-hand and instrumental work will be given, and they are supplemental to the advanced course in farm building. One hour credit, freshman. *Professor Hart.*

4. **Farm Motors.** Considerable time will be given to study and operation of the gasoline engine, the steam engine and the electric motor. This course is taken up in connection with Agricultural Engineering "3." Required of freshmen. *Professor Hart.*

4b. **Farm Machinery and Farm Motors.** Farm machinery and farm motors will be thoroughly studied, and all the latest improved machinery will be available for student instruction. Special atten-

tion will be given to farm motors, both stationary and tractors, and special emphasis will be laid on the power equipment on the farm. Three hours credit, sophomore. *Professor Hart.*

5. **Farm Surveying.** This work will consist of the study and the use of farm levels and compass, and plane table, or terracing, leveling and the survey of farm lands, and also their use in road building. Each student will be required to make a thorough map of a plot of ground and compute its area. Course "2" prerequisite. Required of freshmen. *Professor Welch.*

Note:—Courses 2 and 5, 1 hour credit. Courses 3 and 4, 1 hour credit.

5a. **Forest Surveying.** An advanced course is offered in the use of the compass, level, plane table and transit, with special attention to the different uses of these instruments in topographic and reconnoissance work. The work will consist of a hasty survey of a plot of ground. Then a more careful survey will be made as a check upon the first to illustrate the difference in accuracy. This will enable the student to determine the method to be used on all future work. Work required in the sophomore year for all forest students, but may be elected by other students who have had Agricultural Engineering "2a" and "5," or their equivalent. Two hours credit. *Professor Hart.*

5b. **Saw Mill Machinery and Construction.** This course takes up the study of saw mill and machinery, and deals with the framing of saw mill buildings and other structures using built-up members. Forest students. Sophomore. Prerequisite, Agricultural Engineering "2." Two hours credit. *Professor Hart.*

5c. **Surveying.** All elements in surveying will be given in terracing, ditching, and draining. One hour credit, junior. *Professor Hart.*

6. **Fencing.** This will include a study of the strength and adaptability of various materials for fence construction. The principles of gate construction, and bracing at the corners and at sufficient points according to the condition of the ground. Junior. *Professor Hart.*

6a. **Farm Buildings and Sanitation.** This course will consist of a careful study of the design of all farm buildings, ventilation, water supply, drainage and sanitation. Three hours credit, junior. *Professor Hart.*

7. **Farm Building.** This course consists of the study and design of farm buildings, starting with the simple and gradually working up to the most complicated. Plans are drawn and from these, the bill of material and an estimate of the cost of the completed structure are made. Attention is given to farm conveniences and sanitation. Considerable time will be spent in studying problems of light-

ing, heating, water supply and sewerage disposal for the farm home. Agricultural Engineering "2," or its equivalent, are prerequisite to this course. Juniors. Fall and winter term. One lecture and two laboratory periods. *Professor Hart.*

7b. **Concrete Work.** This course deals with the up-to-date application of concrete to all farm problems, such as the making of fence posts and the application of concrete in making the farm sanitary. One hour credit, senior. *Professor Hart.*

7a. **Wood Physics.** A study of the strength of wood under different conditions and shapes, also the physical effect of moisture, heat and preservatives upon its strength is taken up. Required of forest student. Second term, junior. One hour credit. *Professor Hart.*

7c. **Wood Preservation.** The primary cause of decay; factors governing the lasting powers of different species; the preservation of woods by the application of paints and oils to the surface; the impregnation with creosote and other wood preservatives; the commercial method of impregnation; description of preserving plants and the fire proofing of timber. Junior. One hour credit. *Professor Hart.*

8. **Concrete Construction.** A study will be made of the principles of concrete construction, also the material, forms, mixing, placing and tamping. Their application to farm and forest condiitons and the various uses to which concrete has been put in late years are pointed out. Special attention is given to its use for residences, barns and its application in forestry. The construction of fence posts from concrete is taken up. Optional for seniors. Agricultural Engineering "2," "6" and "7" prerequisite, or their equivalent. *Professor Hart.*

8a. **Concrete Testing.** An advanced course in the testing of cements and concretes under different conditions, shapes, aggregates and reinforcing is given. One lecture and two laboratory periods. Three hours credit. *Professor Hart.*

9. **Road Building.** Practice work is given in locating roads at the most desirable grades with special attention to drainage. Considerable time will be devoted to road materials, and making tests of the various kinds. Optional for seniors. Agricultural Engineering "5" prerequisite to this course. *Professor Hart.*

Note:—Courses "8" and "9" will constitute half a year's work. One and one-half hours credit.

10. **Farm Buildings.** An advanced course in the design, location

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*Courses 1b, 2b, 3b, 4b, 5c, 6a, and 7b are for students taking Agricultural Education degree, but may be elected by other students at discretion of professor in charge.

and construction of all farm buildings. The stress in different members of a design are carefully figured. Models are built and tested to verify the results obtained. Government bulletins and parallel reading "Farm Buildings," Sanders Publishing Co. One lecture and two laboratory period a week throughout the year. Three hours credit.

11. **Farm Machinery.** An advanced course in the elements of machinery. The measurement and transmission of power. The development, use, construction and repair of all farm machinery. Text, "Farm Machinery and Farm Motors," parallel reading, prerequisite, Farm Machinery "3." *Professor Welch.*

12. **Farm Motors.** The sources of power for agricultural purposes. Tread and sweep powers. Steam, gasoline, air and oil engines and tractors, windmills and electric motors, as far as applicable to agricultural purposes. Texts, "Power and the Plow," "Gasoline Engine on the Farm." Parallel reading. Prerequisite, Agricultural Engineering "4." "11" and "12" constitute a year's work. One lecture and two laboratory periods throughout the year. Three hours credit. *Professor Welch.*

14. **Farm Sanitation.** An advanced course in the lighting, heating, ventilating, plumbing and drainage of farm buildings, also in methods employed for sewage disposals. Text, "Rural Hygiene," by Ogden; "Practical Methods of Sewage Disposal," Ogden and Cleveland; "Domestic Water Supplies for the Farm," Fuller. Parallel readings, Government bulletins. Prerequisite, Agricultural Engineering "7." One lecture and two laboratory periods half the year. One and one-half hours credit. *Professor Hart.*

15. **Drainage and Irrigation Engineering.** Drainage of farm lands, both by the open ditch and tile drainage. Methods used in making the preliminary surveys and estimates. The finished survey and report. Drainage laws and assessments. Irrigation methods in use. The application and measurement of water. Texts, "Irrigation and Drainage," King; "Practical Farm Drainage," and "Engineering for Land Drainage," by Elliott. Government bulletins and parallel reading. Prerequisite, Agricultural Engineering "5,". One lecture and two laboratory periods half year. One and one-half hours credit. *Professor Hart.*

16. **Road Building.** A continuation of Agricultural Engineering "9." The economic value of good roads is taken up in connection with a more detailed study of the problem. The location, drainage, road material, construction and road machinery are studied. Highway bridges and culverts are taken up. Text, "American Highways," Shaler. Government bulletins and parallel reading. Prerequisite, Agricultural Engineering "5," and "9." One lecture and

two laboratory periods half the year. One and one-half hours credit. *Professor Hart.*

17. **Agricultural Surveying.** An advanced course in use of the usual surveying instruments, with especial attention to detail and accuracy. Text, Pence and Ketchum's "Surveying Manual," and "Land Surveying," Hodgman. Prerequisite, Agricultural Engineering "5." One lecture and two laboratory periods throughout the year. Three hours credit. *Professor Hart.*

18. **Home Designing.** This course is offered for the students who specialize in Home Economics, and takes up designing of homes, with the expressed idea in view of comfort and convenience at reasonable cost. One hour's credit, junior. *Professor Hart.*

19. **Home Equipment.** This course is supplemental to No. 18, and takes up home conveniences, water supply, sewage disposal, lighting, heating and ventilation. Two hours credit, senior. *Professor Hart.*

FORESTRY

JAMES B. BERRY, Professor.
JAMES GODKIN, Field Agent.
E. W. HADLEY, Student Assistant.

3. **Farm Forestry.** Forestry as an adjunct to agriculture. Forest influences, nursery practice, field planting, thinnings and improvement cuttings, protection, estimating timber, wood measurements, seasoning and preservative treatment of wood, financial results.

Text, lecture, collateral reading. One laboratory period, three hours, second semester. Fee, $1.

For courses leading to Bachelor of Science in Forestry, see page 69.

HORTICULTURE

H. P. STUCKEY, Professor.
R. E. BLACKBURN, Adjunct Professor.
H. W. HARVEY, Field Agent.
C. B. SWEET, Foreman.

1. **Elements of Horticulture: Fruit Growing.** A general study of location, site, frost, planting, varieties, orchard tillage and management. Three lectures per week. Required of freshmen in fall term.

2. **Pruning and Propagation.** A course in grafting, budding and other methods of propagation; also a study of pruning with its practice and effect. A few periods are devoted to a study of varieties both for orchard and truck garden. Laboratory course of three periods per week. Parallel reading, "Pruning Book," by Bailey;

and "Plant Propagation," by Kain. Required of freshmen in winter term.

3. **Elements of Horticulture: Truck Gardening.** A general study of the main truck crops as to planting, tillage and handling, with the addition of a study of hotbeds and their management. Three laboratory periods per week. Parallel reading, "Garden Farming," by Corbett. Required of freshmen in spring term.

4. **Small Fruits.** A study of the various small fruits of interest to the horticulturist. Three lectures a week for six weeks. Text, "Bush-Fruits," by Card. Fruit Harvesting, Storing and Marketing. Three lectures a week for six weeks. Book, "Fruit Harvesting, Storing and Marketing," by Waugh. Required of juniors and seniors.

5. **Pomology and Garden Seeds.** A course in the testing of seeds and a study of the several species of fruit with their pomological classification. Text, "Systematic Pomology," Waugh; supplemented by lectures. A laboratory course of three periods per week, to be carried with Course "4." Fall term. Junior or senior.

6. **Greenhouse Management and Floriculture.** A study of the various flower crops, forcing crops and management of a greenhouse. Reference books, "Greenhouse Management," Taft; "Principles of Floriculture," White; and "Practical Floriculture," Peter Henderson. Three lectures per week. Junior or senior.

7. **Greenhouse Construction and Management.** A study of the different types of greenhouses and heating, construction, etc. In connection with this course, trips to florists and nurseries are taken to study the plants and greenhouses. A ground plan, end elevation, bill of material and description of heating plant used in a greenhouse required of the students at the end of this course. Actual work in greenhouse management is given. Reference book, "Greenhouse Construction," Taft. A laboratory course of three periods per week. Winter term. Junior or senior.

9. **Spraying.** Lectures on the history and chemistry of spraying. Practice in the making and application of spray mixtures accompanied by a study of nozzle and machinery. Three laboratory periods per week. Junior or senior.

10. **Landscape Gardening.** A study of the various schools of landscape architecture and the plants used in producing the various effects. A problem in landscaping is given each student and a drawing showing the solution required. Three lectures per week. Spring term. Junior or senior.

11. **Advanced Pomology.** A course of three lectures per week throughout the year open to seniors. A detailed study of the practical and scientific phases of fruit growing forms the basis of this course and the work is supplemented by numerous references.

12. **Thesis.** A subject relative to any of the following courses,

"11," "14," "15,," or "16" will be assigned to the student for study. At the end of the course a thesis, stating the problem, results obtained, etc., is required of the student. A course of three laboratory periods per week throughout the year. Course "12" must be taken by seniors with major in horticulture.

13. **Economic Entomology.** A course in practical entomology designed especially for use upon the farm. Special attention is paid to the identification of insects and a collection is required of the student at the end of the work. Three hours per week. Last half of the winter term, and all of the spring term. Junior or senior.

14. **Advanced Olericulture.** A course of three lectures per week throughout the year, open to seniors. A practical and scientific study of the problems of vegetable culture, both out doors and under glass. Work supplemented with numerous references.

15. **Advanced Floriculture.** Three lectures per week throughout the year, open to seniors having taken "6" and "7." A study of the more practical and scientific problems of flower growing both under glass and outdoors. Supplemented with numerous references.

16. **Advanced Landscape Gardening.** Three lectures per week throughout the year, open to seniors having taken "10." Landscape problems of homes, cities, parks, schools, public buildings, etc., receive attention. Work supplemented with numerous problems and references.

Note:—The professor in charge will not be required to give Courses "11," "14," "15," nor "16" to less than five students, unless the whole senior class in horticulture is less than five, in which case he can put all the members of the class into the course most acceptable to them.

POULTRY HUSBANDRY

J. H. WOOD, Adjunct Professor.
J. K. GREENE, Field Agent.

1. **Farm Poultry.** A general course covering the farm poultry industry, a study of breeds best suited to farm conditions, farm poultry house construction, hatching and brooding of chicks, feeding and management of the farm flock, handling of the poultry products. Two one-hour lectures of recitations and one laboratory. Freshman. Third term. *Professor Wood.*

2. **Poultry Husbandry.** Locating and laying out a poultry farm; study of the breeds of poultry; judging from the fancy and utility standpoint; poultry house construction; poultry house equipment; fields, fences and shade; principles of poultry breeding; market poultry. Two one-hour lectures of recitations and one laboratory period. Must be preceded by Course "1." Junior. Elective. First term. *Professor Wood.*

3. **Poultry Husbandry.** A continuation of Course "2." A study of the management of the breeding stock, incubators, incubation, brooders, brooding, and the care and feeding of the young chick. The student is required to operate an incubator and care for the chicks hatched until they are six weeks old. One one-hour recitation and the equivalent of two two-hour laboratory periods. Must be preceded by Course "2." Junior. Elective. Second term. *Professor Wood.*

4. **Poultry Husbandry.** A continuation of Course "2" and "3." This course takes up the subjects of poultry feeds and feeding, management of the laying stock, care of the growing stock, production of market poultry, grading and marketing the poultry products, records, accounts, and the disease of poultry. The student is required to care for a pen of birds and keep accurate record of the eggs produced, food consumed, and general conditions; with accounts showing profit or loss. One one-hour lecture or recitation and the equivalent of two two-hour laboratory periods. Must be preceded by Course "3." Junior elective. Third term. *Professor Wood.*

5. **Incubation and Brooding Problems.** Students that have completed Courses 1, 2, 3, and 4 are qualified to take up this work. The student may make tests regarding incubation, brooding and the feeding of the growing chicks. Accurate records must be kept and summarized as a thesis. Time to be arranged at the beginning of the senior year with the professor in charge. Senior. Elective. One credit hour. *Professor Wood.*

6. **Feeding Problems.** Students who have completed Courses 1, 2, 3, and 4 are qualified to take up this work. The student may make feeding tests with either laying birds or birds to be fattened for market. Accurate records must be kept and summarized as a thesis. Time to be arranged at the beginning of the senior year with the professor in charge. Senior. Elective. Two credit hours. *Professor Wood.*

Note:—Poultry Husbandry Courses 2, 3, and 4 are offered only when elected by not less than three students.

VETERINARY MEDICINE

W. M. BURSON, Professor.
J. E. SEVERIN, ,Adjunct Professor.
W. C. BURKHART, Adjunct Professor.
*C. A. PYLE, Field Veterinarian.

3. A course of lectures covering briefly the anatomy and physiology of farm animals. The horse is taken as the basis of study

*In extension service.

and variations in other species are noted. Skeletons, models and charts are used to illustrate the lectures. Elective as minor for juniors in Agriculture. First, second and third terms. Two hours per week. *Dr. Burson.*

4. Laboratory work in the above subjects. One two-hour laboratory period per week, entire year. *Dr. Burson.*

5. A course of lectures on diseases of farm animals. Special attention being paid to parasitic, infectious, contagious and obstetrical diseases and diseases of young animals. Prerequisite, Courses 3 and 4. Elective as minor for seniors in Agriculture. First, second and third terms. Two hours per week. *Dr. Burson.*

6. Clinics, demonstrations, examinations of sick animals and examination of animals for blemishes and unsoundness at veterinary hospital. One laboratory period per week, senior year. *Dr. Burson.*

BACTERIOLGY

1. **General Bacteriology.** This course is designed to give the student a conception of the activities of bacteria. It treats of the biological, physiological and morphological features of bacteria. Laboratory work consists of the preparation of media, the making of cultures, staining methods and the study of the physiological activities of bacteria. One hour lecture and recitation and two laboratory periods, first half-year, juniors in Agriculture. *Dr. Burkhart.*

3. **Bacteriology.** Dairy Bacteriology. General Bacteriology is a prerequisite. This course is offered in order to give the student in Agriculture a more complete knowledge of the organisms with which he will come into contact in his practical dairy work. It consists in the study of sources, growth and activities of bacteria which are to be found in dairy products. Organisms which are pathogenic for man and which are usually transmitted through dairy products are carefully studied. Pasteurization of milk and dairy sanitation are given the attention that their great importance deserves. Infectious diseases of dairy cattle, such as tuberculosis, mastitis and infectious abortion, are studied from a bacteriological point of view. The laboratory work consists in the isolation and study of the cultural characteristics of bacteria found around the dairy and in dairy products. Organisms essential to the manufacture of butter and cheese will be studied. One lecture and two laboratory periods, last half-year, juniors in Agriculture. *Dr. Burkhart.*

For courses leading to degree of Doctor of Veterinary Medicine see page 86.

DESCRIPTION OF GENERAL COURSES

MATHEMATICS

C. M. SNELLING, Professor.
R. P. STEPHENS, Associate Professor.
R. S. POND, Adjunct Professor.

1. **Trigonometry.** A course in plane and spherical trigonometry. Three hours per week for the first half-year. Text: Hun & MacInnes. *Prfoessors Snelling, Stephens* and *Pond.*

2. **Graphical Algebra.** This includes a study of coördinates, the plotting of curves, and the derivation of the equations of the straight line and the circle. Three hours per week for the second half-year. *Professors Snelling, Stephens* and *Pond.*

3. **Analysis.** The work of Course "2" is continued by the study of the equations of the conics and by an introduction to calculus. Three hours per week for the first half-year. *Porfessors Stephens* and *Pond.*

4. **Advanced Algebra.** The following topics are treated: mathematical induction, binominal theorem, complex numbers, determinants, theory of equations, partial fractions, series, and logarithms. Three hours per week for the second half-year. *Professors Stephens* and *Pond.*

CIVIL ENGINEERING

C. M. STRAHAN, Professor.
E. L. GRIGGS, Associate Professor.

A-1. **Elementary Surveying.** A course covering the use, care, and adjustment of surveying instruments, methods of surveying by chain alone, by compass, and by transit; the methods of platting and computing areas and volumes; the variation of the magnetic needle; problems in parting off and and dividing lands; the usé of the Y level and precise leveling; plane tablé and stadia surveying, and the use of the solar transit. Three hours per week. Texts, Breed and Hosmer's "Surveying." *Professor Griggs.*

B-1. **Materials of Construction.** A course of lectures and laboratory work covering the occurrence, preparation, and manufacture of the important structural materials, to-wit: lumber, its seasoning, inspection and preservative treatments; tone, natural and artificial, including brick, terra cotta, cements, concrete blocks, etc.; the metals, including cast iron, wrought iron, steel, copper, tin ,lead, zinc, aluminum and alloys as used by engineers; uniting materials, covering limes, mortars, cements, bituminous binders, joinery, riveting, etc. First and second terms. The third term is given to foundations and masonry structures, the course being based on Baker's

"Masonry Construction." Three hours per week. *Professor Strahan.*

B-2. **Railroad Engineering.** A course covering reconnoissance, preliminary and location surveys, curves, spirals, switches, etc., cross-sectioning, computations and estimates, railroad economics and the various other problems involved in the complete engineering of railways. Three hours per week. Text, Allen's "Railroad Curves and Earthwork." Lectures. *Professor Strahan.*

B-3. **Highway Engineering.** A course of lectures, laboratory and field problems covering the surveys, location, drainage, grading and surfacing of public highways and city streets. The preparation of maps, profiles and estimates. Paving methods and specifications. Road finances, equipment and labor. Three hours per week.

CHEMISTRY

H. C. WHITE, Professor.
H. V. BLACK, Associate Professor.
E. L. JACKSON, Instructor.

The following courses are offered:

1. **Elementary Chemistry.** Three hours per week of lectures and recitations and two laboratory periods, for three terms. Text, McPherson and Henderson, "Elementary Chemistry."

2. **Inorganic Chemistry; College Course.** Three hours per week of lectures and recitations and two laboratory periods, for three terms. Text, Alex Smith, "General Chemistry."

BIOLOGY

JOHN P. CAMPBELL, Professor.
F. F. TALLEY, Student Assistant.

3. **Introductory Animal Biology.** The object of this course is to lay a broad foundation from which the student may logically proceed to any more specialized line of animal study. Attention is given to the morphology of several of the inverterbrate phyla in proportion to their biological significance, and in addition the student is introduced to the study of protoplasm, metabolism, growth, reproduction, sex heredity, etc. Three hours weekly with one laboratory period.

4. **Vertebrate Zoölogy.** This course is conducted with the same general purpose as Course "3." Sufficient attention is given to anatomy to provide for exactness, but the attempt is made to correlate structure and function with the animal's place in nature. The first term is devoted to the protochordata, fishes, and amphibia; the second to reptiles and birds.

5. **Zoölogy of Mammals.** The mammals are given special extended treatment in this course, which occupies the third term.

Extensive dissections are made, but in addition all of the orders and many of the families are taken up from the viewpoint of adaptation to environment, distribution, etc. In addition, considerable attention is given to the study of extinct mammals.

6. **Comparative Anatomy of Vertebrates.** In this course, which occupies the first and second terms, attention is given to the broader side of anatomy, including embryology and histology. Special attention is given to the comparative study of skeletons, teeth, muscular and nervous systems, but the other systems are taken up as fully as possible. The museum material, on which this course is based, has recently been considerably enlarged.

7. **Genetics.** This course consists of lectures, laboratory work and parallel reading. Attention is given to the broad biological features of reproduction, with especial reference to heredity, and final consideration of eugenics. Third term.

BOTANY

J. M. READE, Professor.
— — ————, Student Assistant.
— — ————, Student Assistant.

A. **Plants.** Three hours per week for one term. Text: Coulter, "Plant Life and Plant Uses." Required of one-year students.

1. **Agricultural Botany.** The beginning course prescribed in the curricula of B.S.A. and B.S.F. Three hours of recitations and two hours of laboratory work per week for three terms. Text: Gager, "Fundamentals of Botany."

2. **Local Flora.** Practice in the recognition of the trees, shrubs and herbaceous plants of the locality. Lectures on the classification of Angiosperms. Elective by special permission.

5. **Bacteria.** Three recitations and two hours laboratory work per week during the first half-year. Text: Morrey, "Fundamentals of Bacteriology."

5a. **Water and Sewage.** Two recitations and four hours laboratory work per week during the second half-year.

6. **True Fungi.** Two recitations and four hours of laboratory work per week for three terms.

7. **Phytopathology.** Three recitations and two hours laboratory work per week for three terms.

9. **Laboratory Course.** A series of experiments and connected reading and reports. Six hours of laboratory work per week for three terms.

11. **Genetics.** Studies of variation and heredity. Three hours of lectures and recitations per week for three terms.

ENGLISH

R. E. PARK, Professor.
R. P. WALKER, Adjunct Professor.
H. HULSEY, Tutor.
S. V. SANFORD, Professor of English Language.

A. **The Elements of English.** This course emphasizes business correspondence, a review of grammar, composition writing and the reading of selected classics. Required of one-year students in agriculture. Three hours a week. *Mr. Hulsey.*

1. **Rhetoric.** (a) A study of the fundamental principles of rhetoric, (b) their application to the problems of composition and (c) their application to the interpretation of literature. Weekly themes. Required of freshmen. Three hours a week. *Professor Park, Professor Sanford, Mr. Walker, Mr. Hulsey.*

2. **English Literature.** The principles of literatary criticism and the practical application of these principles to masterpieces studied with reference to (a) elements of literature, (b) species of literature, (c) historical development. The object of this course is to give to the student a general view of the history and development of English literature, with detailed knowledge of certain periods. Throughout the course much attention will be devoted to the writing of essays as a means of training the student to appreciate and to express his appreciation of the literature studied. Required of sophomores. Three hours a week. *Professor Park, Mr. Walker.*

ROMANCE LANGUAGES

J. LUSTRAT, Professor.
T. P. ATKINSON, Instructor .

1. **French X** is a course for beginners who are conditioned in French and wish to substitute both French and German for Greek, and also for agricultural and engineering students who do not offer language for entrance conditions.

The course consists of careful drill in pronounciation, the rudiments of grammar, the study of regular and irregular verbs, the inflection and use of personal pronouns, the rudiments of syntax, dictation, easy exercises of translation from English into French, conversation and the reading of about 275 duodecimo pages of easy prose. Three hours per week.

French 1 is the continuation of Course "X." It will comprise the reading of modern prose, constant practice in translation into French of easy English prose, dictation, short drill in grammar and syntax, full study of all irregular verbs, and conversation. Three hours per week.

GERMAN

JOHN MORRIS, Professor.
M. D. DuBOSE, Adjunct Professor.

German X is a course for beginners who are conditioned in German and wish to substitute both German and French for Greek in the A.B. degree. Three hours per week. *Professor Morris* and *Adjunct Professor DuBose.*

German 1 continues the work of German "X," and completes the requirement for entrance. Three hours per week. *Professor Morris* and *Adjunct Professor DuBose.*

HISTORY AND POLITICAL SCIENCE

J. H. T. McPHERSON, Professor.
W. O. PAYNE, Associate Professor.
R. P. BROOKS, Professor of Georgia History.

2a. **Economic History of the United States.** This course will trace the development of American agriculture and industry from colonial times to the present. Emphasis will be put upon topics of special interest to the South. This is a half-year course given in both halves of year. Three hours per week. Required of freshmen in the School of Commerce, and optional, in conjunction with Economics "1" for sophomores in the Agricultural College. *Professor Brooks.*

4a. **Economic History of England.** A survey of English history with special emphasis upon the development of agricultural, commercial, and industrial life and conditions. This course will be extended to include a similar study of continental Europe during the eighteenth and nineteenth centuries. Three hours a week throughout the year. Optional for sophomores in Bachelor of Science in Agriculture; required of sophomores in Bachelor of Science in Commerce. *Associate Professor Payne.*

PHYSICS

L. L. HENDREN, Professor.
C. R. FOUNTAIN, Adjunct Professor.

The following course is offered for agricultural students. For other courses see the A. and M. College announcements.

2. **Elementary Physics.** A college course covering the elementary principles. In this course especial emphasis is laid upon the application of the principles of physics to practical life. Three hours per week recitation work and two hours per week laboratory work throughout the year. Required of all sophomore B.S. agricultural students and freshmen B.S. forestry students.

ECONOMICS

WM. A. SHELTON, Associate Professor.
H. D. DOZIER, Adjunct Professor.
H. A. INGHRAM, Instructor.

1. **Economic Geography.** A comparative study of the present status of industry, commerce and industrial training of the principal countries of the world. The chief products and industries, the commercial and industrial centers, the distribution of population, the use and conservation of natural resources, and international trade are some of the topics considered. Open to freshmen and sophomores. First or second half of year.

5. **Elementary Economics.** The laws of production, price, value, rent, interest and wages are applied to problems of business organization and public control. Some of these problems are money, credit, business cycles, banking, industrial corporations, railways, international trade and tariff policy, taxation and public expenditures, and labor and economic progress. This course is open to sophomores and upper classmen and should be taken prior to other courses in economics except Economics "1." On the approval of the professor, however, advanced courses may be taken contemporaneously with this course but not prior to it. Throughout the year.

6. **Money and Banking.** The introduction to this subject offered in Economics "5" is presumed. The scope includes the principles and a wide range of problems in money and banking. Commercial and agricultural credit is studied, and the present status and problems of bank control by the federal government and the states are considered. The Federal Reserve Act and the Rural Credit Act, and the administration of these acts are included. First half-year.

7. **Corporation Finance.** Similar principles and methods of financing apply to many corporations. These are considered, also a large collection of financial documents are studied in connection with problems of financial organization and practice. Second half-year.

8. **Transportation.** Transportation agencies are subject to a large amount of public control. In this course problems of such control are studied, also private administration of railways and other common carriers. First two terms.

9. **Trusts and Control of Industrial Corporations.** A study of the economics of large-scale production, and of the control exercised by the federal and state governments over large industrial corporations for the prevention of unfair competition. Third term.

11. **Markets and Marketing.** The general functions to be performed and the principles and methods involved in marketing the various agricultural products are studied. The latter part of the

course is devoted to the problems of the wholesaler and the retailer. Special attention is given to the problems of more economical systems of marketing.

15. **Principles of Accounting.** The purpose of this course is to give an insight to the fundamental principles of accounting and cost determination. Double and single entry book-keeping are studied the first term. The remainder of the year is devoted to a consideration of the general principles of accounting and their application to cost records, income records and financial statements.

Description of other courses may be found in the announcement of the School of Commerce.

PSYCHOLOGY, PHILOSOPHY, AND EDUCATION

T. J. WOOFTER, Dean.
J. S. STEWART, Professor.
H. W. ODUM, Professor.
C. J. HEATWOLE, Professor.
A. S. EDWARDS, Associate Professor.*
J. R. FAIN, Professor.
L. L. HENDREN, Professor.
J. H. T. McPHERSON, Professor.
R. E. PARK, Professor.
R. P. STEPHENS, Associate Professor.
J. E. MUNDY, Teaching Fellow.

The following courses are open to general election. For fuller descriptions of these courses, see the announcement of the Peabody School of Education.

For the teachers' professional license, elect psychology "1," education "1," and two other courses in education from "5," "4-8," "10-12," or vocational education courses.

PSYCHOLOGY

1. **Elementary Psychology.** An introductory course covering the essentials of general psychology and educational psychology. Three hours, first half-year. *Professor Edwards, Professor Heatwole.*

3. **Applied Psychology.** Topics selected each year but chiefly from the following, Psychology "1" or "5" being requisite:

3a. **Social and Business Psychology.** A brief review of social psychology and an application of psychological principles and mental tests to problems of advertising and salesmanship.

3b. **Legal and Vocational Psychology.** A study of psychological problems involved in law, vocations and every-day life.

3c. **Abnormal Psychology.** A brief survey of the exceptional mental states, mental diseases and defects and psychotherapy.

5. **Principles of Psychology.** A systematic study of the adult normal mind. Three hours a week throughout the year. May be taken as a beginning course but not along with Psychology "1." *Professor Edwards, Professor Heatwole.*

5a. The same as Course "5," except that two hour laboratory period is required and credit is given as a science in Group "2." *Professor Edwards.* (May not be given 1918-19).

6. **Experimental Psychology.** An advanced course of laboratory work and conferences, the equivalent of a four-hour credit throughout the year. Prerequisitte, Psychology "1," or "5." May be counted as a science in Group "2," provided that Psychology "5" has not been counted as a science. *Professor Edwards.* (May not be given 1918-19).

PHILOSOPHY

3. **Ethics.** A study of human conduct in its philosophical, sociological, psychological, and physiological phases. The moral aspects of present-day problems of society, democracy, and human life generally. Three hours, first half-year. *Professor Heatwole.*

4. **Logic.** A study of both deductive and inductive logic, including definition, classification, testimony, statistical methods, systems of knowledge, and the formal tests of truth. Three hours, second half-year. *Professor Woofter.*

7. **Introduction to Philosophy.** Historical introduction presenting the great thinkers, the movements of thought, and special studies in the modern field. Human development, or evolution, in its organic and social phases. Practical implications for a philosophy of education. Three hours, the year. *Professor Woofter.*

9. **Social Philosophy.** A study of social theory, functional and applied sociology interpreted, current social problems studied, educational sociology outlined. Three hours, the year. *Professor Odum.*

EDUCATION

1. **History and Principles of Education.**

A study of the educational ideals and achievements of the great peoples of the world. Three hours, second half-year. This may be taken following Psychology "1," which treats educational psychology. *Professor Heatwole.*

4. **Secondary Education.** (a) Principles of organization, management and teaching. Discussion of the teaching of special high school subjects.

(b) Observation and teaching in the high school of Athens with visits to other high schools of the state. Two hours a week throughout the year. *Professor Stewart.*

8. **The Teaching of Special Subjects.**

8a. The teaching of English in the high school. One hour a week, first half-year. *Professor Park.*

8b. The teaching of history in the high school. One hour a week, second half year. *Professor McPherson.*

8c. The taeching of mathematics in the high school. One hour a week, first half year. *Professor Stephens.*

8d. The teaching of physics in the high school. One hour a week, second half-year. *Professor Hendren.*

"8a." should combine with "8b," or "8c" and "8d" to complete Course "4."

5. **The Principles of Rural Life and Education.**

a. Social principles of education.

b. Elementary rural sociology, the rural life movement, farm problems, health and sanitation, the home, church, school, leadership, and community life. Three hours. First term.

c. Study of the modern rural school, rural teacher, rural curriculum, and a correlation of the school with community life. Three hours. *Professor Odum.*

10. **Philosophy of Education.** In relation to evolution, to society in general, democracy, and the individual. Three hours a week. Taken with Philosophy "7," 1918-19. *Professor Woofter.*

For courses given students in Agricultural Education see page 66.

GEOLOGY

Vacant.*

1. **General Geology.** Three hours per week, second half-year. The course of instruction is at first a general one, embracing the study of the distinguishing properties of minerals and common rocks, the decay of rocks and the foundation of soils. Following this is a more extended course of structural, dynamical and historical geology.

MILITARY DEPARTMENT

P. E. TRIPPE,
Lieutenant-Colonel, U. S. A., Retired.

In accordance with the provisions of the land grant act, military exercises are regularly held in this university, upon which the attendance is compulsory by all the members of the freshman, sophomore and junior classes, and the students in the one year course of agriculture, except when excused by the surgeon of the corps of cadets, the Chancellor or the Prudential Committee, for physical disability or other cause.

*Temporarily in charge of the professor of chemistry.

A unit of the senior division, Reserve Officers' Training Corps, was organized last year at this institution.

Any member of the senior division who has completed two academic years of service in that division, who has been selected for further training by the Chancellor and the Commandant, and who executes the following written agreement will be entitled to commutation of subsistence fixed by the Secretary of War in accordance with law.

CONTRACT,

University of Georgia,

Athens, Ga.,_____

In consideration of commutation of subsistence to be furnished me, in accordance with law, I hereby agree to continue in the Reserve Officers Training Corps during the remainder of my course at the University of Georgia, to devote five hours per week during such period to the military training prescribed and to pursue the courses of camp training during such period, prescribed by the Secretary of War.

Witness_____ Signed_____

The commutation of subsistence referred to above is estimated to be $9.00 per month during the academic year.

The course of camp training has been decided to be, one four-weeks camp at the end of the junior (third) year and one four-weeks camp subsequent to graduation.

In lieu of the uniforms to be issued to each member of the unit as provided in G. O. No. 49, War Department, September 20, 1916, the government offers commutation at the rate of $14 per uniform, or thereabout, this amount being paid to all alike whether taking the basic or advanced courses. This year the winter uniform cost approximately $28, and the summer uniform will cost about $10.50 each.

For those taking the basic course, freshman and sophomore classes, the cost of the uniform complete was approximately $15.75 for the past year. This cost may possibly be defrayed by the government this year.

The uniform complete consists of the following articles: 1 blouse; 1 pair trousers; 1 cap; 1 shirt; 1 pair gloves; all olive-drab woolen. 1 pair canvas leggings; 2 pair olive-drab cotton trousers; 1 service hat; 1 hat cord; 1 belt; 1 black tie; necessary insignia.

Such practical and theoretical instruction as is required by existing War Department regulations is carried out.

One hour each week of theoretical instruction in Moss's Manual of Military Training is required of freshmen.

Seniors and juniors are instructed in Miltiary Engineering, Field Service Regulations, and Army Regulations.

The following information has been received from the War Department in a letter dated January 18, 1918:

"It has been decided that members of the Reserve Officers Training Corps, second year advanced course, who are called into the military service under the provisions of the selective service law, will be admitted, if found qualified, to the appropriate service school for training candidates for commission.

"When such members are called into the service, the professor of military science and tactics on duty at the school or college will inform The Adjutant General of the Army of the fact and of their qualifications in order that their admittance as candidates in training schools for officers may be given proper consideration."

BACHELOR OF SCIENCE IN AGRICULTURAL EDUCATION

All students wishing to take the degree of Bachelor of Science in Agricultural Education must be sixteen years of age and must present credit for 14 entrance units as specified under "Terms of Admission" appearing on the cover of this catalog. The Smith-Hughes Bill requires "at least two years of actual working experience on the farm after the twelfth birthday." A part of this experience may be gained by the student after he enters college. A degree of B.S.A. Ed. is conferred on those completing the four-year course.

In order to meet the needs of men preparing to enter the field of Vocational Agricultural Instruction, these special courses are offered. The aim in constructing these courses is to make a combination of agricultural instruction that will develop efficiency in actual farming through scientific and practical knowledge of farm problems, that will give a sympathetic and understanding attitude of mind towards rural life, and that will at the same time develop skill in the art of of teaching vocational agriculture.

Outline of Course

Freshman	Hrs.	Sophomore	Hrs.
Agronomy 1, 2	2	Animal Husbandry 2, 3, 4, and 5	3
Animal Husbandry 1	1	Botany 1	3
Agr. Eng. 1b, 2b, 3b	3	Agricultural Chem. 2b	3
Poultry Husbandry	1	Agricultural Eng. 4b	3
Horticulture 1, 2, and 3	3	Agricultural Education 1	3
English 1	3	Physics 2	3
Chemistry 1	3	Agronomy 5, 6	3
Mathematics 1, and 2	3		
Military Science	1		
	20		21

The division of the time in the junior and senior years shall be as follows:

	Hrs.
Major	12
Minor, group 1	6
Minor, group 2	6
Minor, group 3	6
Gen. Electives	6
	36

Summer Session

In order that students majoring in Agricultural Education shall have time during their senior year for the required "Apprentice Teaching" it is urged that such students spend the summer session

following their junior year at the College. Special courses will be arranged for these students to meet their needs.

Project work must be arranged for during the summer following the junior year, to complete Course 3 in Agricultural Education 3.

Major group:

	Hrs.
Educational Psychology and Principles of Teaching (Ed 3)	3
Methods and Materials (Ag. Ed. 2)	1½
Projects and Methods (Ag. Ed. 3)	3
Apprentice Teaching (Ag. Ed. 4)	3
School Administration (Ed.)	1½
	12

Minor group 1, from which 6 hours are required, is as follows:

Agricultural Chemistry	Bacteriology
Entomology (Horticulture 13)	Plant Pathology

Minor group 2, from which 6 hours shall be required, is as follows:

Animal Husbandry 17	Agr. Engineering 5b, 7b
Agronomy 8	Forestry
Veterinary Science	Horticulture 17

Minor group 3, from which 6 hours shall be required, is as follows:

Agricultural Education 5	Agricultural Journalism
Education	Rural Sociology and Economics.

Not later than the beginning of the junior year the student must submit a program written on a prescribed form for the schedule of work in the junior and senior years, showing his majors and minor, as well as his general electives. This program must be approved by the head of the Division of Agricultural Education.

Foreign Languages: Students who do not present two units of a foreign language at entrance may take a foreign language in the freshman year and carry over mathematics into the junior year.

Laboratory Periods: In this degree two laboratory hours count as one hour of recitation and are included on that basis in the number of hours required.

Total requirements for a degree, exclusive of military science, but including laboratories, will be 76 hours. At least two years of farm experience is also required.

DESCRIPTION OF COURSES

AGRICULTURAL EDUCATION

J. T. WHEELER, Professor.
L. M. SHEFFER, Junior Professor.

1. **Agricultural Education.** This course deals with history and development of vocational education as applied to agricultural educa-

tion in America; the educational and sociological aims and values of agricultural teaching; the organization of the secondary school and secondary course of study to meet vocational demands; texts and parallel readings; through the year, three hours per week. Juniors.

2. **Methods and Materials in Vocational Agriculture.** This is essentially a laboratory course in agricultural methods. The aim is to organize and present agricultural materials in a logical, interesting and effective manner for secondary instruction. This course consists of laboratory courses for specific communities in Georgia, planning projects for those communities, and collecting materials for secondary school work; text book and references, one-half year; three laboratory hours per week. Juniors.

3. **Projects and Project Methods.** This is a continuation of Course 2. Special projects in the various phases of economic agricultural production will be offered for those students preparing to teach secondary agriculture under the "Smith-Hughes Act." This course aims to organize and put into actual practice the scientific and technical knowledge the students have acquired during their college course. This work will be done in coöperation with the several technical college divisions; second half-year; three laboratory periods per week. (See Summer Session above). Juniors.

4. **Apprentice Teaching.** All students preparing to teach under the "Smith-Hughes Act" must do "Apprentice Teaching." Nearby secondary schools will be selected and arrangements made for such practice teaching. Reports required. Through the year, equivalent to three hours per week. Seniors.

5. **Rural Laws and Standards.** This course deals with the federal rules and regulations effecting the production, destruction, standardization and marketing of farm commodities; state and federal farm titles and boundaries; labor laws; water, irrigation and power laws; livestock and dog laws; common carrier duties, rights and immunities; coöperative enterprises; texts and readings. Three hours per week, half-year.

EDUCATION

T. J. WOOFTER, Professor.
J. S. STEWART, Professor.
H. W. ODUM, Professor.
C. J. HEATWOLE, Professor.
A. S. EDWARDS, Associate Professor.

3. **Educational Psychology and Principles of Teaching.** This course will deal with the theory and principles of teaching as pointed out by educational and experimental psychology. Three hours per week. *Professors Woofter, Edwards* and *Heatwole.*

12. **School Administration.** This course deals with state, county and community school units, with taxation and other financial supports of public education. Considers grounds, buildings, text books, teachers, and laws related to public education. Three hours a week, half-year. *Professor Woofter.*

15. **Rural Sociology.** Applications of sociological principles to problems of country life. Redirected rural life and education. Needs of country school, church, home, health, sanitation, recreation, community gatherings, etc. Drift to cities. Negro migration. Diagnoses, remedies, investigations. Three hours, half-year. *Professor Odum.*

15-B. **Rural Economics.** Application of economics to country life; significance to the nation; rural vs. urban population; occupations; shifting of population; farm ownership and tenantry; rural incomes and wealth; special economic activities; organization and coöperation; marketing and buying; transportation; rural finance; surveys of rural wealth, its production, distribution and consumption. Three hours, half-year. *Professor Odum.*

AGRICULTURAL ENGINEERING

L. C. HART, Professor.

1b. **Forge Work.** This course is especially designed for students taking the Agricultural Education degree, and leads to the taking up of project work in the junior and senior years. One hour credit, freshman. *Professor Hart.*

2b. **Work Shop.** This course deals with the sharpening and maintenance of woodworking tools and machinery, and leads to the manufacture of all household conveniences, also the erection of all small and large buildings on the farm. One hour credit, freshman. *Professor Hart.*

3b. **Drawing.** Both freehand and instrumental work will be given and are supplemental to the advanced course in farm building. One hour credit, freshman. *Professor Hart.*

4b. **Farm Machinery and Farm Motors.** Farm machinery and farm motors will be thoroughly studied, and all of the latest improved machinery will be available for student instruction. Special attention will be given to farm motors, both stationary and tractors, and special emphasis will be laid on the power equipment on the farm. Three hours credit, sophomore. *Professor Hart.*

5b. **Surveying.** All elements in surveying will be given in terracing, ditching and draining. One hour credit, junior. *Professor Hart.*

6b. **Farm Buildings and Sanitation.** This course will consist of a careful study of the designs of all farm buildings, ventilation,

water supply, drainage and sanitation. Three hours credit, juniors. *Professor Hart.*

7b. **Concrete Work.** This course deals with the up-to-date application of concrete to all farm problems, such as the making of fence posts and the application of concrete in the making of the farm sanitary. One hour credit, senior. *Professor Hart.*

ANIMAL HUSBANDRY

M. P. JARNAGIN, Professor.

17. **Feeds and Feeding.** (Smith-Hughes Vocational Students). The underlying principles of feeds and feeding will be studied with particular emphasis on the practical problems of feeding farm animals. The students will be required to carry out feeding demonstrations with animals on the College farm, and keep accurate records of kinds and amounts of feeds used, and their effects on the animals. Two recitations per week and the necessary time in the barn for carrying out the feeding problems and completing records. Credit will be given for one laboratory period each week. *Professor Jarnagin.*

AGRONOMY

JOHN R. FAIN, Professor.

3a. **Farm Management.** This course is only open to seniors taking work in Vocational Education. A general consideration of the factors in successful farm management will be given. Special attention will be given to the layout, equipment, necessary capital, seasonal distribution of labor, cost of counting and marketing. The most of the work will have to do with a given farm, and as many visits to successful farms will be taken as possible. A considerable amount of parallel reading will be required. One lecture and two laboratory periods. *Professor Fain.*

AGRICULTURAL JOURNALISM

H. T. MADDUX, Editor.

6. **Agricultural Journalism.** A course planned for students of Vocational Agriculture and required of those taking senior work. The course includes a study of rural publicity, report writing, press work on projects, and special work in the compilation and arrangement of statistical data. Three hours a week. *Mr. Maddux.*

Note: See University catalog for other courses in Journalism.

HORTICULTURE

H. P. STUCKEY, Professor.
R. E. BLACKBURN, Adjunct Professor.

Horticulture 17. The first term of this course will deal with historical horticulture and systematic pomology. This will be a study of the introduction, dissemination and classification of the

most common of our fruits. Pomological descriptions will also be required. The second term's work will consist of a study of sprays and spraying. The causes of injury to trees and fruits will be looked into and the methods of making and applying sprays will receive close attention. The third term's work will consist of a study of landscape gardening similar to Course 10 already offered, special attention being paid to the adapting of the course for the use of teachers in agricultural schools. Parallel reading will be required throughout the course. Two lectures and one laboratory period per week for the year. Elective for junior and senior in Agricultural Education. *Professor Stuckey.*

BACHELOR OF SCIENCE IN FORESTRY

JAMES B. BERRY, Professor.
JAMES GODKIN, Field Agent.
E. W. HADLEY, Student Assistant.

All students wishing to take the degree of Bachelor of Science in Forestry must be sixteen years of age and must present credit for 14 entrance units as specified under "Terms of Admission" on cover of this catalog. A degree of B.S.F. is conferred on those completing the four-year course.

In the four-year professional course, opportunity is given to specialize in certain main lines. For those students desiring to specialize in city forestry an opportunity is offered for the election of landscape gardening and allied subjects. For those desiring to specialize in technical forestry, with the object of entering the federal or state service, the election of advanced courses in botany and forestry; for those desiring to specialize in lumber salesmanship and mill superintendency, the election of courses in economics and business administration; for those desiring to specialize in dendropathology, the election of advanced courses in botany, and plant pathology.

OUTLINE OF COURSE

Freshman Year

Subject	Credits
Chemistry 2, Inorganic Chemistry	3
Forest 25, Forest Botany, or Botany 1, General Botany	3
English 1, English Composition	3
Math. 1, Trigonometry	2
Forest 19, Principles of Forestry	1
Forest 4, Dendrology	3
Ag. Eng. 1, ,Shop Work, Agr. Eng. 2a, Drawing, Ag. Eng. 3 and 4, Machinery and Power	3
Summer Term	
Forest 7, Forest Mensuration	2
Forest 12, General Forestry	4
	24

Sophomore Year

Agr. Chem. 1, Organic Chemistry	3
Eco. 5, Principles of Economics	3
Physics 2, College Physics	3
Agr. Eng. 5a, Surveying	3
Forest 5, Silviculture	3
Agron. 5 and 6, Soil Physics and Fertility	3

Summer Term

Forest 7, Forest Mensuration	2
Forest 16, Forest Practice	4
	24

Junior and Senior Years

Not later than the beginning of the junior year the student is required to designate his specialization and must select, with the advice and approval of the head of the department, the course of study he desires to pursue during the following two years. The major and one minor must be selected from technical forestry subjects, one minor may be selected from departments in Group I, and twelve hours of general electives from departments in Group II. Whether or not a student will be permitted to elect more than eighteen hours of work a year will depend upon his class record.

Division of Time

	Hrs.
Major Forestry	12
Minor, Forestry	6
Minor, Group I	6
Gen. Electives, Group II	12
	36

Group I

Agri. Engineering
Agri. Chemistry
Horticulture
Botany
Plant Pathology

Group II

General electives may be chosen from any department of the College of Agriculture or from any college or school of the University.

DESCRIPTION OF COURSES

1. **Forest Policy.** The development of policy as reflected in forest legislation. A comprehensive study of the forest laws of all countries, special stress being placed upon those in which the science of forestry has reached a high degree of perfection. A consideration of the forest legislation of the various states. The development of a policy.

Text, lecture, collateral reading. Three hours, third term.

2. **Farm Forestry** (Short course for one-year students). General consideration of the farm woodlot. Nursery practice practicable on farm, field planting, improvement cuttings, measuring forest products, seasoning and preservative treatment of farm timbers.

Lecture, collateral reading. One laboratory period, three hours, first term. Fee, $1.

3. **Farm Forestry.** Forestry as an adjunct to agriculture. Forest influences, nursery practice, field planting, thinnings and improvement cuttings, protection, estimating timber, wood measurements, seasoning and preservative treatment of wood, financial results.

Text, lecture, collateral reading. One laboratory period, three hours, second semester. Fee, $1.

4. **Dendrology.** Comprehensive study of the forest trees of North America. Taxonomy, botanical and silvical characteristics, range, winter and summer identification. Field work in the College arboretum.

Text, lectures, reports, collateral reading. Two laboratory periods, three hours, entire year. Fee, $2.50.

4a. **Tree and Shrub Identification.** Systematic study of the local flora. Winter and summer characteristics. Collection and preparation of material for class use. Practical field identification.

Text and collateral reading. Preparation of note book and herbarium. Three laboratory periods per week, first half-year. Special courses for students in Home Economics. Fee, $2.50.

5. **Silviculture.** First term. Forest ecology, factors of site, quality of site, forest types, silvical regions of North America.

Second term. Silvicultural systems of management, selection of a system, limitations of systems.

Third term. Seeding and planting, artificial regeneration, nursery practice, seed identification, seed testing, storage.

Text, lecture, collateral reading. One laboratory period, three hours, entire year. Fee, $2.50.

6. **Forest Protection.** Methods of preventing, fighting and controlling forest fire. Location and use of lookout-towers, telephones, wireless and heliographs. Caches for tools and supplies. Maps and protection plans. Creating public sentiment and organizing local residents.

Lecture, collateral reading. One laboratory period. Three hours, first term.

7. **Forest Mensuration.** Part 1, freshman summer camp. Units of measurement, use of volume tables, estimating standing timber, log rules, mill-scale studies.

Text, lecture and field work. Two credits. Fee, $5.

7a. **Forest Mensuration.** Part 2, sophomore summer camp. Formation of volume tables, growth tables, yield tables. Advanced work in estimating standing timber.

Text, lecture and field work. Two credits. Fee, $5.

8. **Forest Management.** First term. Forest organization. Consideration of the normal forest, volume of growing stock under

different systems of silvicultural management. Determining the felling budget. Division of the forest area.

Second term. Forest finance. Value of forest property. Value based on productive capacity. Forest accounting. Financial rotation. Problems in forest finance. Taxation of forest property.

Third term. Working plans. Provision of the plan. Data necessary for the construction of a plan. Detailed study of a plan for a highly specialized forest. Preliminary working plans. Each student is required to make a detailed plan for a small forest area, collecting the necessary data himself, drafting his plan and placing it in final form for filing in the school library.

Text, lecture, field work. Three hours, entire year.

9. **Forest Utilization.** Systematic study of logging operations in different sections of North America; character of tools used; wood transportation; comparison of costs of the various operations; labor conditions; camp, board and sanitation. Milling and manufacture; costs, markets, grading. Specialized industries; wood pulp, handles, matches, etc. Seasoning of lumber; treatment to prevent stain.

A report on a specific operation is required. This will be according to outline and will include the woods operations, transport, milling, manufacture, utilization of waste, marketing. Each student is required to spend not less than ten days in a logging camp and around the mill in the collection of data. Text, lecture, collateral reading, field work. Three credits entire year.

10. **Forest History.** An analysis of the economic conditions which have resulted in the development for forestry. The influence of form of government and property rights. Text, lecture, collateral reading. Three hours, first term.

11. **Forest Economics.** The relation existing between the practice of forestry, industry, and the prosperity of a country. Taxation. Reports upon the economic importance of specific industries will be a feature of the course. Text, lecture, reports, collateral reading. Three hours, second term.

12. **General Forestry.** Elementary forest field work in dendrology, surveying, logging, camping and packing. Training in the work of a Forest Service guard. Text, lecture, field work. Freshman, summer camp, two months. Four credits.

14. **Forest Administration.** Contracts, agency, appropriation of water for power and irrigation, affidavits, bonds, commercial paper. The work will be considered from the standpoint of the Forest Service. Text, lecture, collateral reading. Three hours, third term.

15. **Wood Technology.** Structure of wood tissue; classification of fibers; identification of woods, generic and specific. Both microscopic and macroscopic identification will be considered. Each student is required to make a series of microscopic slides for use in the

course. Text, lecture, reports, collateral reading. Three laboratory periods, entire year. Fee, $2.50.

15a. **Wood Identification and Uses.** Structure and properties of wood. General characteristics. Practical means of identification. Effect of stains and oils. Adaptability to specific needs. The subject is considered from the standpoint of home furnishing. Text and collateral reading, reports. Three laboratory periods, second half-year. Special course for students in Home Economics. Fee, $1.

16. **Field Work.** Field work in forest surveying, silviculture, forest soils, logging, engineering, tree diseases. This work will be under the supervision of the head of department. Lecture and field work. Sophomore, summer camp, two months. Four credits.

17. **Seminar.** Systematic review, special investigative studies, research. To be considered in connection with Forest "18." Three hours, entire year. Three credits.

18. **Thesis.** The subject of the thesis is selected in consultation with the head of the school and may be along lines of original research or simply investigative. For students desiring to enter private work it will be along the line of their specialization. The thesis must come up to certain specifications and will be filed in the Forest School library. Three credits.

19. **Principles of Forestry.** Forest influences. Relation of forests to agriculture, navigation, industry. Results of general deforestation. Products of the forest. Forest areas of the world. The movement for the conservation of natural resources. The profession of forestry. Lecture, collateral reading. Three hours per week, third term. One credit.

20. **Forest Reconnaissance.** Methods of survey, mapping and reporting adopted by the U. S. Forest Service. Adjustments and manipulation of instruments. Comparative values of different methods. The course is primarily a study of methods. Lecture, collateral reading, field work. Three hours for entire year. Three credits.

21. **Wood Utilization.** A specialized course in the manufacture of wood; machinery, methods, products, special problems. Involves a detailed study of a number of wood-working industries. Reports according to outline. Lecture, collateral reading, field work. Three hours for entire year. Three credits.

22. **Forest By-products.** A study of all industries dependent upon the forest for the raw material, the finished product of which is not wood in one form or another; turpentine orcharding, maple sugar, tan bark and extract wood, gums and resins, wood distillation, forest range. Lecture, collateral reading. Three hours, one term. One credit.

23. **Grades and Grading.** A detailed study of the grading rules

of the various associations. Practice work in grading. Lecture, collateral reading, field work. Three hours, one term, one credit.

24. **Mill Organization.** The development of the modern sawmill and its equipment. Labor efficiency. Various systems of management. Involves a detailed study and report of several operations. Lecture, collateral reading, field work. Three hours, one term. One credit.

25. **Forest Botany.** The subject is treated from the standpoint of the forester and furnishes a basis for the work in dendrology and silviculture. Text and collateral reading. Three laboratory periods, entire year. Fee, $2.50.

PLANT PATHOLOGY

JAMES B. BERRY, Professor.
JAMES GODKIN, Field Agent.
JAMES A. McCLINTOCK, Scientific Assistant.

1. **Microbiology.** Systematic classification of microbiological organisms producing a pathological condition in economic plants. Laboratory methods. Preparation of materials. Text and collateral reading. Three laboratory periods per week, first term. One credit. Junior-senior elective. Fee, $2.

2. **Pathology of Field Crops.** Important diseases of cotton, cereals, potato and forage crops. Methods of identification. Life cycle. Control. Text and collateral reading. Three laboratory periods per week, second and third terms. Two credits. Junior-senior elective. Fee, $3.

3. **Pathology of Horticultural Crops.** Economic diseases of orchard, vineyard and garden. Identification. Life cycle. Methods of control. Text and collateral reading. Three laboratory periods per week, second and third terms. Two credits. Junior-senior elective. Fee, $3.

4. **Dendropathology.** Study of forest tree diseases. Identification and control. Effect on system of management. Organisms producing decay in wood. Control. Text and collateral reading. Three laboratory periods per week, second and third terms. Two credits. Junior-senior elective. Fee, $2.

5. **Laboratory Technique.** Preparation of media and cultures. Artificial inoculations. Sectioning. Mounts. Research methods. Text and collateral reading. Three laboratory periods per week, first, second and third term. Three credits. Senior elective. Fee, $5.

6. **Plant Diseases.** Plant functions. Factors of habitat. Causes of diseased condition. Identification of common diseases of garden and orchard. Control measures. Text and collateral reading. Field excursions. Three laboratory periods per week, first term. Special course for students in Home Economics. One credit. Fee, $2.50.

BACHELOR OF SCIENCE IN HOME ECONOMICS

MISS MARY E. CRESWELL, Director.
——— ———, Instructor in Home Economics.
——— ———, Instructor in Home Economics.
MISS LOIS P. DOWDLE, Assistant State Supervisor Home Economics.
MRS. BESSIE STANLEY WOOD, Asssitant State Supervisor Home Economics.
MISS MAUD SMITH, Poultry Specialist.

The Division of Home Economics has been established in the Georgia State College of Agriculture for the purpose of offering courses of senior college rank dealing with all phases of scientific management of the home. The problems connected with food, clothing and shelter will be studied not only from the standpoint of the individual home, but also in their social and economic relationships. Selection of related courses in science has been based upon the conviction that biology is quite as fundamental as chemistry in its household applications and, therefore, should have an important place in a course in which students take their major in Home Economics.

Emphasis is placed upon subjects in agriculture which have special interest for women, and courses are arranged to suit their needs in the belief that these should be met not only to make the economic status of women more secure but also to enrich their lives in aesthetic and ethical ways.

At the present time no more attractive or profitable employment for women can be found than the branches of agriculture which can be carried on under intensive methods and which require skill in management such as a woman can acquire. The world food situation which cannot fail to be acute for several years to come demands the utmost endeavor on the part of America. Our women can render no higher patriotic service than in work which includes leadership and skill in food production and conservation and in its use in maintenance of health and efficiency. For this reason all the facilities of the Georgia State College of Agriculture including the regular scientific and applied courses as well as new ones especially adapted to their needs are open to women.

The courses in Home Economics, Agriculture and related sciences are offered to meet the needs of women students seeking the following:

1. Higher education for the profession of home-making which includes general culture and preparation in the broadest sense for

participation in municipal and rural community upbuilding along lines of health, sanitation and economic and social welfare.

These courses will give further training along lines which heretofore have been inadequately provided for by the State. They open opportunity for women in new fields of endeavor and will meet the growing demand of the women of Georgia for broader educational privileges.

2. Preparation for positions as county and supervising home demonstration agents or specialists in extension work in Home Economics.

3. Preparation for high school teaching in Home Economics.

4. Training in institutional management, that is, the management of schools, hospitals, hotels from standpoint of diet and feeding; lunch rooms, cafeterias, tea rooms, etc.

5. Preparation for carrying on special lines of agricultural industry suited to women, such as horticulture (including floriculture and greenhouse management), commercial canning and preserving, poultry husbandry, home dairying, plant pathology, etc.

6. Professional training for teaching agricultural subjects related to women's work in normal schools and other institutions.

7. Lines of special technical and research work in which women can engage for the State and Federal Governments.

8. Editorial work in Agriculture and Home Economics.

The degree course in Home Economics requires four years' work of college rank based upon entrance credits consisting of fourteen units from an accredited high school or the equivalent. The last two years of this course are to be offered at the State College of Agriculture, the junior work being offered in 1918-19. For admission to the junior class graduation from an institution giving two years college work is required. Women without such graduation may be admitted to the degree course provided they present for the approval of the committee on entrance requirements certificates of equivalent work done in institutions of high rank in this state or elsewhere. In any case the work done must be equivalent to two years of college work. It is desirable that students offer for entrance to the junior class work made up of the following courses:

Freshman		Sophomore	
English	3	English	3
General Chemistry	3	Educational Psychology	3
Biology	3	Physiology	1½
Elementary Drawing & Design	2	Sociology	1½
Textiles	1	Physics	3
Clothing (Elementary Dress Making	3	Clothing (Advanced Dress Making and Millinery	1½
Elective	3	Food Study	3
		Elective	1½
Total hours	18	Total hours	18

The student who includes physics in her 14 units of high school work may offer only 1½ hours physics for entrance to junior class.

Normal school graduates upon presenting satisfactory evidence of completion of courses in education may receive advanced standing for such courses to the extent of 3 credit hours.

The applicant must further show sufficient maturity and ability to do the required work and this ability must be demonstrated during first half of the junior year. The qualifications of students will be measured not only formal academic requirements but also by personality, individual poise and attitude toward the work undertaken.

Especial emphasis will be placed upon the student's ability to express herself orally and in writing in clear, fluent and correct English.

Courses Offered. The courses offered are professional in character and lead to the degree of Bachelor of Science in Home Economics. Students qualifying for this degree will be required to take 36 hours in the junior and senior years, 12 hours of which must be in Home Economics. The division of time in junior and senior years shall be as follows:

	For County Agents.	For High School Teachers.
Major _ _ _ _	12 hours	12 hours
Minor, Group 1	6 hours	6 hours
Minor, Group 2	6 hours	— hours
Minor, Group 3	6 hours	9 hours
General Elective _ _ _	6 hours	9 hours
	36 hours	36 hours

Group 1	Group 2	Group 3
Chemistry	Horticulture	Education
Botany	Agronomy	English
Zoölogy	Poultry	Social Biology
Bacteriology	Dairying	Economics
Physiology	Plant Pathology	

At the beginning of the junior year the student must submit a program written on a prescribed form for the schedule of work in the junior and senior years showing her majors and minors, as well as her general electives. This program must be approved by the head of the division in which she takes her major.

The course suggested for students preparing to become county agents in Home Demonstration Work includes work in agriculture and home economics with carefully related science and is planned to give the scientific and technical training needed in this work.

SUGGESTED COURSE FOR COUNTY AGENTS

Junior		Senior	
Bacteriology (1, 5)	3	Poultry Husbandry	2
Chemistry (organic & food)	3	Horticulture (10a)	1
Horticulture (2a, 3a)	2	English	3
Plant Pathology (6)	1	Home Equipment (Ag.Eng. 1a)	1½
Home Dairying (A.H. 16)	1½	Costume Design. (H.E. 29)	1
Rural Sociology	1½	Advanced Dressmaking (H.E. 30)	2
Food Study (H.E. 5, 8, 9)	3	Nutrition (H.E. 12)	1½
Home Design. (Ag.En. 18)	1	Dietetics (H.E. 13)	1½
Home Furnishing (H.E. 44)	1	Biological Problems	1½
Organization of Home Demonstration Work (H.E. 51)	1	Elective	3
Total hours	18	Total hours	18

The student who does not expect to teach or do other public work but desires preparation for home making may substitute both in entrance and in residence requirements other courses than those in education provided she offers three credit hours in psychology.

Junior and senior course for high school teachers is suggested as follows:

Junior		Senior	
Education a. General and special methods. b. History of Education.	3	Education a. Special Methods. b. Practice Teaching.	3
Bacteriology	3	Household Equipment and Management	1½
Advanced Textiles and Laundering	1	Nutrition	1½
House Designing and Furnishing	2	Dietetics	1½
Study of Foods	1½	Home Nursing	1½
Chemistry (organic & Food)	3	Biological Problems	1½
Clothing (Adv. Dress Making and Millinery)	1½	Economics	3
Costume Designing	1½	Elective	4½
Elective	1½		
Total hours	18	Total hours	18

Health. Problems of health will arise in the following courses: Dietary Problems, Bacteriology, Dietetics, Home Designing, Home Equipment, Household Management, Biology. These problems when coördinated will give a systematic study of health. This coördination will be accomplished by special conference of instructors. Provision will be made for adequate physical education.

Housing. Careful plans will be made to insure comfortable and pleasant facilities for housing at moderate cost. Students boarding in Athens will be required to live in homes which have been approved by the College authorities. List of approved boarding places can be secured in advance.

Social Activities. Helpful forms of recreation and social inter-

course will be provided. Organizations to promote public speaking and literary and dramatic expression will be encouraged and all students expected to take active part in these activities.

Fees and Other Expenses. In each laboratory course it is necessary to charge a sufficient fee to cover the cost of materials used and breakage incurred. Books will cost about $12.50 a year. There is no tuition.

5. **Food Preservation.** Advanced canning of fruits and vegetables in glass and tin; standardization of products; use of water bath, steam pressure canner, thermometer, saccharometer and other apparatus for securing accuracy in home and community canning; drying fruits, vegetables and herbs; making fruit juices, syrups, pastes; extraction of pectin, and jelly making; preserving. *Miss Creswell.*

Junior, first term; three laboratory periods for half term; credit, one-half hour. Fee, $2.50.

6. **Food Preservation.** Preserving and crystallizing fruits; fermentation of vegetables including sauer-kraut, cucumber and chayote dill pickles; salt brining of cucumbers; finishing pickles from salt stock; vinegar making from peaches, apples, pears, figs, grapes; canning and curing meats.

Senior, first term; three laboratory periods; credit, one hour. Prerequisites, Bacteriology 1 and 5. Fee, $2.50.

8. **Dietary Problems.** A survey of Georgia food materials and the dietary habits of the people will be made to give concrete basis for constructive work in applying the principles of nutrition and general cookery previously gained to the proper utilization of foods available in the average rural home. Planning and preparing food combinations which will meet approved dietary standards for children and adults, and which can be duplicated under existing conditions. Special attention to child diet and the school lunch.

One lecture and recitation, two laboratory periods; junior first half-year following 5; credit, one hour. Prerequisites, Physiology, Elementary Food Study and Cookery. Fee, $2.50. *Miss Creswell.*

9. **Demonstration Cookery.** An advanced course with problems selected from the general field of food preparation. Special emphasis placed upon skilful manipulation and clear presentation of the subject. Second term, juniors or seniors. Prerequisites, same as for 8. Fee, $2.50. Credit, one hour.

10. **Institutional Cooking and Management.** Plans for organization and equipment of institution kitchens, dining rooms, lunch rooms; practical work in marketing, cooking, serving; catering for special occasions. Junior or senior. Prerequisite, college courses in cooking and food study required for junior entrance. Credit, one and one-half hours, first half of year. Fee, $2.50.

11. **Chemistry of Foods.** This course treats of the chemical composition, digestibility, and nutritive value of the more common classes of foods. Special attention is given to those products produced in the state of Georgia. Consideration is given to the common forms of food adulteration and methods of detecting the presence of substances used in adulterants. The course includes the analysis of milk and butter and approximate analysis of some cereal food product. Required of seniors taking Home Economics. One and one-half hours, first half-year. Fee, $2.50. *Professor Worsham.*

12. **Nutrition.** A study of the fundamental principles of human nutrition including the function and nutritive properties of the food principles; energy values of foods; the chemistry and physiology of digestion and metabolism. Senior, first half-year, credit 1½ hours. Fee, $2.50. Prerequisites, Organic and Food Chemistry, Physiology, Bacteriology.

13. **Dietetics.** Knowledge previously gained in cooking, food study, chemistry, physiology and bacteriology will be summarized and applied to the problems of feeding individuals of varying ages and conditions and of families and other groups. Topics of study will include nutritive requirements for individuals considering age, sex, occupation, health and disease; relative cost of foods; dietary calculations. Seniors, second half-year. Two laboratory periods and one lecture. Credit, one and one-half hours. Fee, $2.50. Prerequisites, Organic Chemistry, Chemistry of Foods, Physiology, Bacteriology 1 and 5.

28. **Textiles.** Study of the textile materials used for clothing and house furnishing; development of the textile industry; processes of manufacturing cotton, wool, silk, linen; identification of fibers by means of the microscope; tests of fibers and adulterations; suitable fabrics for various uses; cleansing, renovating and laundering. Laboratory two hours, lecture one hour. Credit one hour. Fee, $1. Junior, fall term.

29. **Costume Design.** A study of dress including some consideration of the history of costume; modern requirements from the standpoint of simplicity, appropriateness for the occasion, economy, hygiene and beauty; applications of the theories of design and color in planning costumes, student to provide material. Senior or junior, second half-year. Credit, 1½ hours. Fee, 1.

43. **Home Management.** The application of scientific and economic principles to home problems; organization and management of household activities; division of the income; household accounts; relation of the modern home to industrial life; home ideals and standards. Lectures, readings and recitations. One term, junior standards. Lectures, reading and recitations. One term. Senior. Credit, 1 hour. Plans will be made to have this course supplement with opportunity for practical application in actual management.

44. **House Furnishing and Decoration.** Application of principles of design and color to house furnishings, to finishes for walls and floors, selection and arrangement of rugs, draperies, and furniture with view to beauty, economy and the sanitary needs of the modern house. Lectures, readings, lantern slides, trips to shops, and study of materials. Junior, spring term. Credit, one hour.

Agricultural Engineering, No. 18—Home Designing. This course is offered for the students who specialize in Home Economics, and takes up the designing of homes. Some of the topics considered are: location with reference to sanitary, convenient, and attractive surroundings; planning for comfort, convenience, and beauty at reasonable cost. Junior, winter term. Credit, one hour. Fee, $1. *Professor Hart.*

Agricultural Engineering No. 19—Home Equipment. This course is supplemental to No. 18, and takes up home conveniences, water supply, sewerage disposal, lighting, heating and ventilation. One-half year. One and one-half hours credit. Senior. Fee, $1.50. *Professor Hart.*

Biological Problems of Childhood and Social Life. This course will include a study of genetics, of child development and of the biological problems which are involved in the training of children and in the intimate social relations. Senior, last half-year. One and one-half hours credit.

9a. **Practical Sociology.** A course in the elements of sociology will be offered to give the student a basis for the study of social life and social organization. Brief study of the definitions and meaning of sociology and its relation to social problems. Studies of the home and family; studies of children and their problems; poverty and crime; problems of the city; shifting and growth of population; and other important topics. One hour credit, junior, fall term. *Professor Odum.*

50. **Principles of Rural Life and Education.** A brief course in rural sociology studying the problems of country life interpreted in sound sociologica lterms. The practical correlation of the farmer and his work with school, home church. Special studies in the school, the church, the home, rural aesthetics, rural leadership, cooperation with government an dothers. One hour credit; junior, winter term. *Professor Odum.*

51. **Organization of Home Demonstration Work.** Survey of conditions, social and economic, which this work is to meet; factors and forces in county and community to be recognized and used; conducting home demonstrations in various activities; methods of organizing girls and women; use of the demonstration lecture, exhibits, charts, models, and other means and materials of instruction; organization for production, standardization, marketing; social out-

growths; development of community fairs; recreation and dramatic expression; study of material from original sources and field trips to observe and take part in actual work. Junior, spring term; three lectures and recitations. One hour credit. *Misses Creswell* and *Dowdle* and *Mrs. Wood.*

52. **Organization of Home Demonstration Work.** Continuation of Course 51. Senior, winter term. One hour credit.

BACTERIOLOGY

1. **General Bacteriology.** This course is designed to give the student a conception of the activities of bacteria. It treats of the biological, physiological and morphological features of bacteria. Laboratory work consists of the preparation of media, the making of cultures, staining methods and the study of the physiological activities of bacteria. One lecture and recitation and two laboratory periods, first half-year. Juniors. Fee, $2.50. *Dr. Burkhart.*

Bacteriology 5. General bacteriology is a prerequisite. A special course in acid fermentation due to the growth of bacteria as it occurs in the production of cheese, bread, butter, vinegar, sauer-kraut and other kinds of pickling. Pathogenic bacteria which usually contaminate food such as milk, water, and vegetables will be studied and the disinfection of contaminated premises considered. One lecture and recitation and two laboratory periods. Juniors, last half-year. Fee, $2.50. *Dr. Burkhart.*

HORTICULTURE

2a. **Pruning and Propagation.** A course in grafting, budding and other methods of propagation; also a study of pruning with its practice and effect. A few periods are devoted to a study of varieties both for the orchard and truck garden, some additional practical work in the propagation of greenhouse plants given. Laboratory course of three periods per week. Junior, winter term. Fee, $2.50 for 2a and 3a.

3a. **Elements of Horticulture. Truck Gardening.** A general study of the main truck crops as to planting, tillage and handling, with the addition of a study of hotbeds and their management, special emphasis placed on the planting and care of the home vegetable garden. Three laboratory periods per week. Junior, spring term.

10a. **Landscape Gardening.** A study of the various schools of landscape architecture and the plants used in producing the various effects. A problem in landscaping is given each student and a drawing showing the solution required, special attention given to planning and care of the home, and school grounds. Three lectures per week. Winter term, senior.

16. **Animal Husbandry.** This course is designed especially for students in home economics and will include production and handling

of milk, and its products, in the home. Farm butter making and the making of various kinds of soft cheeses will be taken up. Considerable attention will be given to the testing of milk and its products and food value of the same. One lecture and two laboratory periods, second half of year. One and one-half hours credit. Fee, $2.50. *Professor Goodwin.*

Poultry Husbandry. These courses in Poultry Husbandry are designed to prepare the student to manage successfully a farm or commercial flock of chickens, also to prepare her to do demonstration work in counties or communities as required by the U. S. Department of Agriculture. Much emphasis will be placed on practical work which will accustom the student to handling and caring for poultry and poultry products.

1a. **Farm Poultry.** A general course covering the farm poultry industry, a study of breeds best suited to farm conditions, farm poultry house construction, feeding and general management of the farm flock, production of market poultry, grading and marketing of poultry products; poultry diseases and parasites. Two one-hour lectures or recitations and one two-hour laboratory. Senior, fall term. Fee, $1. *Professor Wood.*

1b. **Poultry Husbandry.** A continuation of 1a. A study of the principles of poultry breeding, management of the breeding stock, incubation, brooding, the care and feeding of small chicks. Students will be required to operate incubators, brooders and care for baby chicks. Two one-hour lectures or recitations and one two-hour laboratory period. Senior, spring term. Fee, $1. *Professor Wood.*

4a. **Tree and Shrub Identification.** Systematic study of the local flora; winter and summer characteristics; collection and preparation of material for class use; practical field identification; ttest and collateral reading; preparation of note book and herbarium; three laboratory periods per week, first half year. Junior or senior special course for students in Home Economics. Fee, $2.50. *Professor Berry.*

15a. **Wood Identification and Uses.** Structure and properties of wood; generic characteristics; practical means of identification; effect of stains and oil; adaptability to specific needs; the subject is considered from the standpoint of home furnishing; text and collateral reading; reports. Three laboratory periods, second half-year. Special course for students in Home Economics. Junior or senior. Fee, $1. *Professor Berry.*

6. **Plant Diseases.** Plant functions; factors of habitat; causes of diseased condition; identification of common diseases of garden and orchard; control measures. Text and collateral reading. Field excursions. Three laboratory periods per week, first term. Special course for students in Home Economics. Junior, one credit. Fee, $2.50. *Professor Berry.*

OTHER COURSES

Consult the general catalog for other courses. In English all the courses of the University are open to regular students of this division; of especial interest are: 4. The Novel; 5. The English Drama; 6. The Short Story and the English Essay and courses in Journalism. Provision will be made for study and participation in in dramatic expression, including games, festivals, pageants, etc., which should become a part of the community life directed by teachers and county agents.

The School of Education offers unusual advantages in courses in Psychology and Education.

Senior courses in Home Economics will not be offered during the college year 1918-19.

SUMMER SCHOOL COURSES

The courses offered in the University Summer School in 1918 are briefly outlined. For these credit toward the Summer School diploma may be secured. Students who meet the entrance requirements and do the required additional work may receive in Courses 1, 2, 3, 4, a maximum of one and one-half hours junior college credit for each course. For further information see Summer School Bulletin.

1. **Foods and Cookery.** The work will include the study and preparation of breads, beverages, eggs, milk and its products; meats, vegetables, and fruit desserts. Groups of students will plan and serve meals. The menu will be considered in its dietetic, economic, and aesthetic aspects. Laboratory daily. Fee, $2. *Miss Proctor.*

2. **Home Demonstration Work.** Lecture and demonstrations planned not only for teachers and county agents but for superintendents, principals and others who want to coöperate with the Home Demonstration Agent in carrying out the war program for the present year. Topics: the present needs in food conservation; proper utilization of local food stuffs; the preservation of surplus fruits and vegetables; economies in care and handlings of food; the substitutions and adaptations necessary to save wheat, fat, meat, and sugar. The dietary relationships of foods and food habits and certain psychological factors will be discussed. The changes and substitutions necessary to effect the proper saving under war time conditions and to increase efficiency in adults and to provide for growth of children will be outlined. *Miss Creswell.*

3. **Home Demonstration Work.** This course will be closely connected with the club work and the relation between the work of the school and the home will be constantly stressed. Actual practice will be given in handling and packing standard 4-H brand products, and in the household processes and industries necessary to war

service in the home. Finished products will be arranged attractively to illustrate the educative value of exhibits, and at the end of the course will become the property of the students who made them. Topics: canning, in tin and in glass; drying, fruits and vegetables in home made and commercial dryers; bread making, with combinations of materials as wheat flour substitutes; butter making and the making of cottage cheese; planning meals, and their preparation so as to conserve time, labor and materials; school lunches. *Mrs. Wood.*

4. **Nutrition.** A study of the nutritive value and function of carbohydrates, fats, proteins, and mineral water, their proportion and combination in a meal, the energy, protein, and mineral requirements of the body as modified by age, occupation and other conditions. One hour daily. *Miss Proctor.*

21. **Elementary Sewing.** The course includes training in hand and machine sewing, and the use of simple patterns. Making of articles comprising a cookery uniform (holder, towel, cap, and apron); these are selected as typical problems for sewing classes. The Canning Club cap and apron are chosen as the standard.

In the daily program, suggestions will be given in regard to the manner of presenting subjects, planning lessons, and arranging courses of study. Laboratory, daily. Fee, $1. *Miss Hill.*

22. **Advanced Sewing.** This course is designed to meet the needs of those planning to engage in advanced club work, teach in high schools, or agricultural schools. Hand and machine sewing, in the making of useful articles for the home, simple underwear, and dress; more thorough study of the sewing machine, its mechanism, use, and care; patterns easy of construction drafted to measure, and compared with commercial patterns; drafted patterns used in making underwear; commercial pattern in making Canning Club dress; care and repair of clothing emphasized; economy in purchase and use of material. Laboratory, daily. Fee, $1. *Miss Hill.*

23. **Red Cross Sewing.** For the benefit of teachers who will have charge of the Junior Red Cross units in the public schools; includes both theoretical and practical work; hand and machine sewing.

The practical work includes: (1) a few simple articles for hospital supplies, suitable for children to make; (2) articles for older girls and students in high school classes, comprising hospital supplies, children's clothing, hospital garments. A few typical articles for class work will be chosen; samples of other articles will be shown and discussed. One hour daily. Fee, 50 cents. *Miss Hill.*

SHORT COURSES

Two annual short courses of ten days each are offered; the one in January for women is held preceding the annual conference of county agents in Home Demonstration Work, the one in August

being for prize winning Canning Club girls and women. At these short courses instruction is given in Home Economics, Horticulture, Poultry Husbandry, Home Dairying,etc.

During the college year of 1918-19 a short course of three months will be offered to women, in which students qualifying for junior work can receive college credit for a term's work. This course is planned especially to aid the county agent who desires advanced work but can be absent from her work for a limited period of time.

DOCTOR OF VETERINARY MEDICINE

W. M. BURSON, Professor.
J. E. SEVERIN, Adjunct Professor.
W. C. BURKHART, Adjunct Professor.
R. C. WILSON, Professor of Pharmacy and Materia Medica.
*CHAS. A. PYLE, Field Veterinarian.
— — ———, Professor of Pathology.
— — ———, Professor of Surgery.
— — ———, Professor of Comparative Medicine.

A full four-year course in veterinary medicine leading to the degree of D.V.M. (Doctor of Veterinary Medicine) is offered.

Outline of Course

Freshman

	Hrs.
Anatomy I, II	6
Animal Husbandry 2, 3, 4, 5	3
Chemistry 1	3
English 1	3
Anatomy V.	2
Vet. Physiology 1	3
Total, Veterinary Subjects	20
Military Science	1
Total for Course	21

Sophomore

	Hrs.
Anatomy III, IV	6
Anatomy VI, (Embryology)	1
Animal Husbandry 8a and 9a	3
Bacteriology 1 and 2	3
Biology 3	3
Agr. Chem. 1, (Organic)	3
Vet. Physiology 2	2
Total, Veterinary Subjects	21
Total for Course	21

Junior

	Hrs.
Infectious Diseases	3
Pathology 1	3
Surgery 1	3
Materia Medica	2
Pharmacy	2
Therapeutics	1
Physical diagnosis	1
Clinics	2
Horseshoeing	1
Parasitology	2
Total Veterinary Subjects	20
Military Science	3
Total for Course	23

Senior

	Hrs.
Diseases and Surgery Sm. an.	3
Special Surgery	3
Special Pathology & Lab. diag.	3
Noninfectious Diseases	3
Food Inspection	2
Opthalmology	1
Obstetrics	2
Clinics	2
Jurisprudence	1
Total Veterinary Subjects	20
Military Science	3
Total for Course	23

*In extension work.

Elective in junior and senior years:
Serum Therapy (Bacteriology 4)----------2 hrs.
Dairy Bacteriology (Bacteriology 3)----------1½ hrs.

COMPARATIVE ANATOMY

Dr. J. E. Severin.

Anatomy, being the basic subject of all medical science, must receive careful attention at the hands of the students. The subject is taught by means of lectures, recitations, demonstrations and dissections. All cadavers used are preserved by the intravascular injection of formalin, thus facilitating the work and eliminating the possibility of putrefaction and infection. The work given is divided in the following manner:

Anatomy 1. Osteology and Arthrology. This consists in the study of the bones and joints . Drawings are made by each student in order that he may have a good mental picture of their shapes and characteristic parts. Freshman. First term. Three lectures and three two-hour laboratory periods per week.

Anatomy 2. Myology and Splanchnology. The study of the muscles and viscera. The student is required to make a complete dissection of the horse, paying particular attention to the above structures. Second and third terms. Three lectures and three two-hour laboratory periods per week. Prerequisite, Anatomy 1.

Anatomy 3. Angiology and Neurology. The study of the organs of circulation and the nervous system. The cadavers used are preserved as mentioned above and the arterial system is injected with a suitable mass. Sophomore. First and second terms. Three lectures and three two-hour laboratory periods per week. Prerequisite, Anatomy 1 and 2.

Anatomy 4. Comparative Anatomy. Consists of the study of the variations in form and structure of corresponding organs and parts of the various domestic animals. Dissections of the ox, hog and dog will be made sufficient to acquire a knowledge of the principal differential features in these animals as compared to the horse. Sophomores. Third term. Three lectures and three two-hour laboratory periods per week. Prerequisite, Anatomy 1, 2 and 3.

Throughout the course given thus far the student's attention is continually called to those aspects of anatomy which are most directly related to diagnosis and surgical procedure.

Anatomy 5. Histology. A study of the microscopic structure of animal tissues. Students study the tissues under the microscope and are required to be able to identify specimens of all tissues. The preparation and mounting of sections will be taken up if time permits. One lecture and two two-hour laboratory periods per week. Freshmen. First and second terms.

Anatomy 6. Embryology. A study of reproduction and the de-

velopment of the embryo. Two lectures and one two-hour laboratory period per week. Sophomores. First term. Prerequisite, Anatomy 1, 2 and 5 and Physiology 1.

VETERINARY PHYSIOLOGY

Dr. W. M. Burson.

Veterinary Physiology 1. A study of the normal functions of the animal body. The course is intended to give the student a thorough understanding of the vital processes of respiration, circulation, digestion, assimilation, excretion and secretion, in order that he may appreciate the benefits to be derived from proper hygienic conditions, the selection and proper uses of feed stuffs and proper methods of handling livestock. The course consists of lectures, demontrations and laboratory work. Charts, models and other appliances are used to illustrate the work of the course. Two lectures and one two-hour laboratory period per week. Text, "A Manual of Veterinary Physiology," by F. Smith. Freshmen; entire year.

Veterinary Physiology 2. The physiology of the nervous system, enervation ,locomotion, generation and development. Prerequisite, Physiology I and Anatomy I and II. Lectures, demonstrations and laboratory work. Sophomores, three hours per week, first and second terms.

BACTERIOLOGY

Dr. W. C. Burkhart.

1. **General Bacteriology.** This course is designed to give the student a conception of the activities of bacteria. It treats of the biological , physiological and morphological features of bacteria. Laboratory work consists of the preparation of media, the making of cultures, staining methods and the study of physiological activities of bacterial. Two hours of lectures and recitation and one laboratory period. First half-year. Sophomore.

2. **Pathogenic Bacteriology.** A knowledge of general bacteriology is a prerequisite. This consists of a study of pathogenic bacteria, e. g. pus cocci, tuberculosis, glanders, anthrax and tetanus. The work consists of the observation of cultural characteristics and the study of the pathogenic significance of the organisms; the methods of bacteriological diagnosis, such as isolation and agglutination and the means of treatment by the use of vaccines and anti-serum. Two hours of lectures and recitations and one laboratory period. Second half-year. Sophomore.

3. **Dairy Bacteriology.** Bacteriology 1, prerequisite. This course is offered in order to give the student in agriculture a more complete knowledge of the organisms with which he will come into contact in his practical dairy work. It consists in the study of the sources, growth and activities of bacteria that are to be found in dairy

products. Organisms pathogenic for man and which are usually transmitted through dairy products are carefully studied. Pasteurization of milk and dairy sanitation are given the attention that their great importance deserves. Infectious diseases of cattle, such as tuberculosis, mastitis and infectious abortion are studied from a bacteriological point of view. The laboratory work consists in the isolation and study of the cultural characteristics of bacteria found around the dairy and in dairy products. Organisms essential to the manufacture of butter and cheese will be studied. One lecture and two two-hour laboratory periods per week. Last half-year. Juniors in Agriculture and juniors in Veterinary Degree Course.

4. **Serum Therapy.** Bacteriology 1, 2, prerequisite. A detailed study of infection and theories of immunity. The various paths of entrance and elimination of infection into and from the body will be fully discussed. The general question of anti-body formation will be carefully considered. The various types of therapy (serum, vaccine, chemo) will be studied. The work will also include a consideration of the various infectious diseases and the relation of immunity and serum therapy.

In the laboratory anti-toxins, vaccines, tuberculin, and mallein will be prepared. Standardization of antitoxins, complement and methods of demonstrating agglutinis will be conducted. Complement fixation tests and anaphylactic reactions will be demonstrated in the laboratory. Two lectures and two two-hour laboratory periods, entire year. Elective to juniors and seniors in Veterinary Course. Two or four hours credit. The lecture course having a credit of two hours and the complete course a credit of four hours.

COURSES IN VETERINARY MATERIA MEDICA AND PHARMACY

Dr. R. C. Wilson.

Veterinary Materia Medica. This course will correlate with the courses in Veterinary Pharmacy and Therapeutics. An intimate study of all substances from which medicinal agents are prepared will be made, including those from the inorganic, vegetable and animal kingdoms. Identification of these substances in the crude and purified state will be made, their physical and chemical properties noted, their actual constituents and proper solvent determined and their toxic properties and antidotes tabulated. On the whole, the course is intended to establish the proper foundation for the study of Therapeutics, which is taken up later. Juniors, first and second terms, three hours per week.

Veterinary Pharmacy. This course will embrace a close study of those preparations which will be used in actual practice including waters, spirits, tinctures, fluid extracts, extracts, liniments, pills,

boli, tablets, ointments, etc. Their manufacture will be entered into in the laboratory and their physical and chemical properties demonstrated. The subjects of solvents, keeping qualities, modes of administration, incompatibilities, doses and prescription writing will received ample attention. Junors, second and third terms, three hours per week.

Veterinary Therapeutics. This course is to be considered a continuation of the work in Materia Medica and is devoted to study and instruction in the use of drugs on the various organs and parts of the body and their use in the treatment of diseases of farm animals. The work in Materia Medica is a prerequisite. Juniors, three hours per week, third term.

PATHOLOGY

Professor to be supplied.

1. **General Pathology.** A course of lectures and recitations in the subject of general pathology. The cause of disease, pathological phenomena in general, inflammation, fever, the protective and reparative forces of the body, retrogressive disturbances and infiltrations, hypertrophy and tumor formations are considered. All departures from normal and physiological conditions receive the attention necessary to familiarize the student with the subject. Prerequisite, Physiology 1-2 and Bacteriology 1-2. Three lectures per week, junior year.

2. **Special Pathology.** Autopsies and Laboratory Diagnosis. A consideration of pathological conditions of the various organs and parts of the body, preparation, examination and identification of pathological specimens under the microscope constitute the greater part of the work. Autopsies of all animals that die in the hospital and such other autopsies as may be available for diagnostic purposes will be conducted by the students under the supervision of the professor in charge. Prerequisite, Pathology 1. Lectures, laboratory work and autopsies. Three hours per week, senior.

3. **Food Inspection.** A course dsigned to cover in a broad sense the subject of meat inspection and dairy and milk inspection. Based in a general way upon the requirements of the Federal Meat Inspection Law, but taking also into consideration these subjects as applicable to municipalities and rural districts. The purpose in view being to prepare the student for efficient work along food inspection lines. Sanitary construction of abattoirs, dairy barns and milk houses receive attention. Post mortem examinations of meat producing animals will be conducted. Visits to large slaughtering establishments and dairies will be made. Tests of milk and bacterial examinations will receive attention. Prerequisites as for Pathology 2. Three hours per week, two terms, senior year.

4. **Parasitology.** A study of the animal parasites infesting farm animals and fowls. Classification, life history, means of propagation, identification, diseased condition produced by infestation, methods of control and eradication will be considered. Lectures and laboratory work. Three hours per week, two terms, junior year. ,

COMPARATIVE MEDICINE

Professor to be supplied.

1. **Infectious Diseases.** In this course the various infectious diseases of animals are studied. These are taken up in a systematic manner and consideration is given to prevalence, etiology, symptomatology, anatomical alterations, treatment, methods of prevention, control and eradication. In connection with this course clinics will be conducted, at which students will be trained in diagnosis and therapeutics. Three hours of lectures and recitations per week, junior year.

2. **Non-Infectious Diseases.** All the diseases not classed as infectious and which affect the domestic animals will be considered in this course. The various organs of the body will be studied with reference to the diseases affecting them. Comparisons will be made of the various diseases as they affect the various species of animals. Students will be required to take the course in Clinics, to diagnose and administer treatment and to keep record of lectures and Clinics. Prerequisite, Pathology 1 and Infectious Diseases. Three hours per week of lectures and recitations, senior year.

SURGERY

Professor to be supplied.

1. **General Surgery.** In this course wound dressing, suturing, local and general antiseptics, asepsis and surgical procedure in general are studied. Diseases of bones, muscles, nerves and other important structures receive consideration. Special attention is given to hernias, fractures, concrements and neoplasms. Lectures and recitations, three hours per week, junior year.

2. **Special Surgery.** A consideration of the surgical diseases of the various regions of the body. The work is discussed in detail in lectures and recitations. Following this the students will be required to perform at least all the common operations, under the guidance of the instructor, upon subjects anesthetized especially for the occasion. Dentistry and lameness are included in this course. Three hours per week of lectures and recitations and laboratory exercises, senior year.

Clinics. Daily clinics will be held at the hospital and junior and senior students will be assigned to the care of patients and required to diagnose cases and to recommend and administer treatment under

the supervision of the professor in charge and to assist at all operations. Junior and senior years, two hours credit.

Physical Diagnosis. A course closely related to the courses in diseases, surgery and clinics. A systematic study of the methods used to recognize or identify disease in the living animal. One term of lectures, recitations and demonstrations in the junior year. One hour credit.

Horseshoeing. A special study of the foot of the horse, its abnormalities and diseases and the methods of shoeing and balancing used to overcome the evil conditions. Three hours per week of lectures, recitations and demonstrations during one term, junior year.

Diseases and Surgery of Small Animals. In this course the diseases of the dog, cat and poultry, infectious, non-infectious, and the surgical operations practiced upon them will be studied in detail. With respect to the infectious diseases, methods of prevention, control and eradication will be stressed. Special wards for small animals are provided in the hospital and surgical cases will be handled along approved lines. Lectures, clinics and surgical exercises and operations constitute the bulk of the course. Students will be placed in charge of small animals in the hospital and held responsible for care and treatment. Seniors, three hours per week, entire year.

Opthalmology. A study of the eye and its appendages, together with a study of the diseases, abnormalities, accidents and other injuries to which it is subject. Treatment of the various diseases of the eye and surgical procedure receive the attention necessary. Lectures, demonstrations, clinics and surgical exercises constitute the work of the course. Three hours per week during one term, senior year.

Obstetrics. A course of study in the anatomy and physiology of the organs of reproduction of the female, the diseases incident to pregnancy and parturition and the disease of newborn animals. Lectures, anatomical demonstrations and clinics constitute the work of the course. Three hours per week, two terms, seniors.

VETERINARY JURISPRUDENCE

Sylvanus Morris, Professor of Law.

A course of lectures on law as it applies to the veterinarian as a practitioner, as an official of the government, state and municipality; his rights and liabilities and his responsibilities as a professional man. Legal principals, federal, state and municipal laws, acts and ordinances affecting the veterinarian receive the necessary attention. Three hours per week during one term of senior year.

Note:—For description of courses in Animal Husbandry, Biology, Chemistry and English see under the various departments mentioned.

Note:—For courses given to one-year students see page 97 and for those given to home economics students see page 82.

ONE-YEAR COURSE

This course commences at the opening of the fall session and continues throughout the collegiate year. The purpose of this course is to provide suitable instruction for those who can only remain in college for one year. An effort has been made, therefore, to condense the work as much as possible, provide a correct scientific foundation and yet make the instruction of a very practical nature. An outline of the one-year course follows. The schedule indicates the number of hours required in each subject and the amount of time devoted to class-room and laboratory work. Notice that the laboratory instruction has been emphasized as this is considered the best way of demonstrating the value of applied science to the solution of the problems of the farmer. Students entering this course who are capable of carrying the freshman matematics for English may be permitted to do so upon the approval of the president of the College.

ONE-YEAR REQUIREMENTS

First Term

	Hours.	Lab. Periods.
English	3	--
Arithmetic	3	--
Cotton and Cotton Grading	2	1
Cereal Judging	--	1
Chemistry	3	--
Iron and Woodwork	--	3
Horticulture	3	1
Forestry	2	1
Botany	3	--
Veterinary Medicine	3	--
	22	7

Second Term

English	3	--
Arithmetic	3	--
Cereals	2	--
Soils	3	--
Farm Machinery	--	1
Horticulture	3	1
Dairying	1	2
Feeds and Feeding	3	1
Farm Management	2	--
Veterinary Medicine	2	1
	22	6

Third Term

English	3	--
Farm Accounts	3	--
Grass and Forage Crops	3	1
Soil Fertility	3	--
Plumbing and Pipe Fitting	--	1
Horticulture	3	1
Farm Buildings	--	1
Practice Work Animal Husbandry	--	1
Surveying	3	1
Breeds and Breeding	3	2
Veterinary Medicine	2	--
	23	8

AGRONOMY (One-year course)

Cereals and Cereal Judging. The history, use and cultivation of the different cereals is studied. Especial attention is given to seed selection as influencing the yield of farm crops. A study of the various cereals, especially corn, is made by use of the score card. First term. Two one-hour recitations and one laboratory period. *Professor Rast.*

Farm Management. An examination of the various business methods employed on different classes of farms is first undertaken. Special attention is given to systematizing the work and determining the effect of various rotations on the maintenance of fertility. A stereopticon is used to show how various kinds of farms should be arranged so as to conduct the business with the greatest economy. Second term. *Professor Fain.*

Grass and Forage Crops. A study is made of the various grasses adapted to this state that can be utilized to the best advantage for pasture and hay. The uses of the forage crops, especially the legumes, are given considerable attention. Methods of growing and preserving silage are considered at length, as this is undoubtedly the best form for preserving forage crops in the South. Third term.

Soils. A study of the physical properties of soil is made, and the effect of good and poor mechanical conditions on crop production is demonstrated. Methods of improving the physical conditions are studied. Special attention is given to the water-holding capacity of the soil, and the best methods of conserving soil moisture. Second term. Three one-hour recitations.

Soil Fertility. The different fertilizing ingredients and their function in plant growth will be discussed. Methods of mixing fertilizers and determning the formulas best adapted to different soils are studied. The effect of rotation of crops on soil fertility and the

draft of the different crops on the soils also receive attention. Third term. Three one-hour recitations.

COTTON INDUSTRY (One-year course)

Emphasis is laid on the importance of seed selection. A study of types of plants with special reference to their yielding capacity is made, and the conditions affecting length, strength, uniformity, quality and quantity of fiber. Some attention is given to combing and grading cotton, and all varieties are studied in the laboratory. There is a complete set of grades of long staple and upland lint cotton in the laboratory for inspection and comparison, and students are required to grade by the samples, after the basis of grading has been pointed out. Second term. Two one-hour recitations. One laboratory period. *Professor Rast*

ANIMAL HUSBANDRY (One-year course)

Breeds and Breeding. A practical course will be given in the study of domesticated animals, and a consideration of the fundamental laws underlying their production. Three one-hour recitations. Third term. *Professor Jarnagin.*

Dairying. In this course lectures will be given on the principles of modern dairying and on the manufacture of butter, cheese and other products. Practice work in the operation and repair of dairy machines will be required of all student. The use of the Babcock test and other apparatus for the detection of adulteration of milk will be fully explained. Two lectures and two laboratory periods. Second term. *Professor Goodwin.*

Feeds and Feeding. In this course a study of the various feeding stuffs will be taken up. The balancing of rations and their adaptation for maintenance, development of bone and muscle, production of milk and butter, and for maintaining and fattening farm animals will be discussed and explained. Three one-hour recitations and one laboratory period. Second term. *Professor Goodwin.*

Stock Judging. Scoring, judging and classifying the various classes of farm live stock will be an important part of this course. After the student has become proficient in the use of the score card, work will be given in comparative judging and show-ring placing. The standard of excellence as established by the several breeders' associations will also be given some attention. Third term. Two laboratory periods. *Professor Goodwin.*

HORTICULTURE (One-year course)

Orchards. A study of orchards as to location, site, exposure, cultivation, fertilization, planting, pruning, spraying, thinning, harvest-

ing and marketing. Books to be used, "Principles of Fruit Growing," by L. H. Bailey. Three one-hour lectures and one laboratory period per week. First term.

Propagation and Pruning. A study of building, grafting, and other methods of plant manipulation and propagation, with a course in the principles and practice of pruning. Three lectures and one laboratory period per week. Second term.

Small Fruit and Trucking. A course in the management of small fruit plantations and truck gardens, following much the same order as the orchard course. Particular attention will be given to the construction and management of hotbeds as well as to the principal small fruit and vegetable crops of the section. Three lectures and one laboratory period per week. Third term.

AGRICULTURAL ENGINEERING (One-year course)

Wood Work. This includes the care and use of wood working tools. It will be made as practical as possible. The majority of the exercises will consist of the construction of articles that will be needed on the farm, such as gates, fences, wagon beds and other farm conveniences. First term. Two laboratory periods. *Professor Welch.*

Forge Work. This course includes welding and shaping of iron and handling of steel. Considerable attention will be paid to the making and tempering of small hand tools. A student after taking this course should be able to do all of the ordinary repairs of farm machines and other blacksmithing that will be necessary in farm work. First term. Two laboratory periods per week. *Mr. Kirk.*

Farm Machinery Judging. A study of the principles of construction and operation is made. Considerable time is given to studying the different farm machines. Some time is devoted to motors, especially gasoline and steam engines. Third term. Two laboratory periods. *Professor Welch.*

Farm Building and Fences. The strength and adaptability of the materials available for construction are first determined. Principles of construction are studied and considerable time is given to planning the different farm buildings with especial regard to convenience and sanitation. The use of concrete on the farm and principles of concrete construction are demonstrated. Laboratory practice constitutes an important part of the work.. *Professor Welch.*

Farm Engineering. Instruction is given in the use of the instruments necessary in surveying farm lands and terracing. Some time is given to terracing and leveling. *Professor Welch.*

Plumbing and Pipe Fitting. A short course in plumbing and pipe fitting is given in connection with farm building. It consists of the location and planning of the water supply and drainage away from

the home, and the proper laying out of a perfectly sanitary system of plumbing for buildings. The proper assembling and selection of the material needed for a complete job, and the calking of joints are studied. *Mr. Kirk.*

VETERINARY MEDICINE (One-year Course)

1. Consists of lectures in the anatomy and physiology of the horse, with brief notices of the variations occurring in the other farm animals. Lectures on materia medica cover the more commonly used drugs and medicines, paying particular attention to the action and dosage of the drugs. First term. Three hours per week.

2. Consists of lectures on theory and practice and surgery; deals with the most common diseases of the horse and cow, the minor operations that are performed on these animals, and the care of surgical and accidental wounds. Second term. Two hours per week.

3. Consists of free clinics held at the veterinary hospital. One hour per week. Second and third terms.

4. Consists of lectures on obstetrics and dentistry. Two hours per week. Third term.

AGRICULTURAL CHEMISTRY (One-year Course)

This course is planned to prepare the student for intelligent study of the chemistry of soils, fertilizer and foods. At first the elements and compounds most important to agriculture are taken up. The composition of farm crops, and the application of chemistry to plant and animal life are studied. Text, "Chemistry of Farm Practice," by Keitt. This course consists of three lectures during the first term. *Professor Carter.*

FORESTRY (One-year course)

A study of forestry as applied to farm woodlands. How to secure a stand of timber, how to thin, to protect, and harvest the forest crop. First term. Two one-hour lectures and one two-hour practice periods. *Professor Berry.*

LUMBERMAN'S SHORT COURSE

The one-year vocational course in logging engineering is open to men who have had at least six months practical experience in some woods operation, sawmill or wood-using industry. It is necessary that men have sufficient education to follow the work profitably. In addition to arithmetic the prospective student should have some knowledge of algebra and geometry.

Those desiring further information are referred to the special announcement of the Lumberman's Short Course.

MASTER OF SCIENCE IN AGRICULTURE

A graduate course in agriculture is offered leading to the degree of Master of Science in Agriculture. A reputable baccalaureate degree is a prerequisite. The major and at least one minor must be elected from courses offered in the College of Agriculture. One minor may be chosen from graduate courses offered in other departments of the University. The choice of courses is subject to the approval of the professor in charge of the department in which the major course is selected.

Graduate work is offered in five courses by the College of Agriculture, in agronomy, agricultural chemistry, horticulture, animal husbandry, veterinary medicine, and forestry.

In agronomy stress is laid upon soil types of Georgia, improvement of seed corn, physical properties of soils, fertilizers.

In agricultural chemistry, special attention is given to agricultural chemical analysis, with select readings and laboratory work.

Graduate work in horticulture will be given in advanced pomology, with select readings upon plant breeding, origin of species, etc.

Animal husbandry graduate work will take up feeding tests with study of chemical and physiological changes in animal life.

Graduate work in veterinary science consists of theory and practice of veterinary medicine, clinics, lectures and laboratory work in bacteriology.

Graduate work can be taken during the summer as well as during the regular University terms.

For full particulars about graduate work, the candidate should write to College of Agriculture for special bulletin outlining the work of the Graduate School.

SUMMER COURSES IN AGRICULTURE

The Georgia State College of Agriculture offers two sets of courses during its summer session, the collegiate courses leading to degrees, and the Summer School courses designed to equip public school teachers for better teaching of agricultural subjects.

Cost. A tuition fee of $20 for each collegiate course will be charged; also a laboratory fee varying with the course, of from $5 to $10 to cover cost of material. In addition the student will be charged for any breakage.

COLLEGIATE COURSES

The courses here offered apply toward a degree with credit equal to those given during the regular term.

Not more than one full course can be taken by each student and three students will have to apply for any collegiate course offered before it is given.

Cotton Industry 9 and 10. Cotton grading, warehousing and marketing. Experimental cotton breeding. Three hour credit. Fee, $5. *Professor Rast.*

Agronomy 5 and 6. A study of the origin and physical properties of different soil types. Factors in crop production. Methods of soil management and studies of commercial fertilizers. Lectures, recitations, laboratory work, field excursions and parallel readings. Three hours credit. Laboratory fee, $5. *Professor Crabb.*

Animal Husbandry, 2, 3, 4, and 5. The origin, history and development of the present type of horses, mules, beef cattle, dairy cattle, sheep and swine are taken up. Three hours credit. Laboratory fee, $5. *Professor Goodwin.*

Horticulture, 1, 2, and 3. Fruit growing, pruning, propagation, and truck gardening are included in this course. Three hours credit. Laboratory fee, $5. *Professor Stuckey.*

Agricultural Engineering, 1, 2, 3, 4, and 5. Wood and forge work, drawing, farm machinery, motors and farm surveying are treated. Three hours credit. Laboratory fee, $5. *Professor Hart.*

Agricultural Engineering 18. Home Designing. For description of course see page 81. *Professor Hart.*

Agricultural Engineering 1b to 3b. For students in Agricultural Education. For description o fcourse see page 44. *Professor Hart.*

Agricultural Engineering 6 and 7. Fencing and farm building. Laboratory fee, $5. *Professor Hart.*

Veterinary Medicine 3 and 4. This course includes anatomy and physiology of farm animals and some work in materia medica. Three hours credit. Laboratory fee, $5. *Dr. Burson.*

Agricultural Chemistry 2b and 3b. Qualitative and quantitative analyses for agricultural students. Qualitative analyses equal to that given in college catalogue under "2b" prerequisite for 3b. Three hours credit. Laboratory fee, $10. *Professors Worsham* and *Carter.*

Poultry Husbandry, Farm Poultry 1. A general course in poultry management, covering breeds and breeding, housing, feeding, incubation, brooding and marketing. Breeds best suited to Georgia and their requirements will be studied in detail. Poultry problems in this state will also be fully discussed. Laboratory work will consist of practical work among the flocks on the College poultry farm. Five lectures and three laboratories per week. *J. H. Wood,* Adjunct Professor.

Other courses will be given if the number of students applying justify it, and it is found possible to offer them.

SUMMER SCHOOL COURSES

(No tuition is charged for these courses).

Elementary Agriculture. The state text-book will be followed in a general way with such references to additional works as may be deemed necessary. Especial emphasis will be given to the work to be done by the students in the elementary schools. This will include simple experiments to be performed at the school, such work as can be done at the home of the students, and in the school garden. Excursions will be made to different parts of the College farm. The various laboratories of the Agricultural College will be utilized in studying the various laboratory experiments suggested.

Home Study: Halligan's "Fundamentals of Agriculture," Call and Schafen's "Laboratory Manual of Agriculture." *Professor Fain.*

High School Agriculture. Warren's "Elementary Agriculture" will be used as a text-book. Especial study will be made of laboratory practice to go with this text. The general scheme for this laboratory work will be outlined showing how seasonal work can be combined with the text, how the home farms and gardens can be used and especial exercises suggested to increase the powers of observation in students. Regular excursions over the college farm, dairy, etc., will be required.

Home Study: "Soils," by Fletcher; "Field Crops," by Wilson & Warburton; "Beginnings in Animal Husbandry," by Plumb; "Fruit Growing," by S. B. Greer; "Rural Agriculture," C. W. Davis. Read all and pass examination on any two. *Professor Fain.*

Note: For elementary agriculture, see general elementary department course.

Elementary Field Crops. This course is designed to give special information on common field crops. A study will be made of their classification, uses, relative importance, their growth, and the functions of seed ,leaves and roots. Attention will be given to the following crops: Grain crops, including corn, wheat, oats, sorghum, etc.; forage crops, grasses, legumes, alfalfa, etc.; miscellaneous crops, potatoes, sugar cane, tobacco, etc.; fibre crops, cotton, etc. A brief study of weeds will be made, also of crop rotations. Class work will include lectures, recitations and laboratory exercises. Text: "Field Crops," by Wilson and Warburton; "Field and Laboratory Studies of Crops," by McCall. Home Study: Duggar's "Southern Field Crops." *Professor Crabb.*

Elementary Soils and Soil Fertility. This course is designed for those who desire special information on soils and soil fertility. The work includes a study of soil formation, classification, physical properties and composition of soils. Also the study of conditions essential for plant growth, plant food elements in the soil and their

relation to plant growth. The management of different soils for the maintenance of their productivity and the use of commercial fertilizers are studied. Class work consists of lectures, recitations, demonstrations, laboratory experiments and field excursions on the Agricultural College farm. Text: "Soils and Soil Fertility," by Whitson and Walster; "Field and Laboratory Studies of Soils," by McCall. Home Study: Burkett's "Soils." *Professor Crabb.*

Animal Husbandry. This course includes a study of the characteristics and adaptation of the different types of horses, cattle and hogs. Some study is also made of the more important breeds of each class. The breeding, feeding and management of live stock is also taken up in a general way. The laboratory periods are given over to judging and comparative study of livestock on the College farm, the making of butter, separation of milk and testing of milk and its products.

Manual Training. This course is offered in handling, sharpening and use of elementary tools; in use of square, thumb guage, saw, chisels and planes; in construction work based on King's "Elements of Construction;" wood work, forge work, drawing. *Professor Hart.*

Vocational Training Courses in Agricultural Engineering. Special variations of Agricultural Engineering 1b to 7b to help teachers in their next session's work. No college credit can be given for these courses. *Professor Hart.*

Landscape Gardening and Floriculture. This course will be adapted to teachers of high schools and upper grammar grades. It includes a discussion of the fundamental principles of landscape gardening, and a study of the plants used to obtain the desired effects. The handling, growing and propagation of flowers and other ornamental plants receive attention. Special emphasis is placed upon school and home ground improvement, both in the country and in the city. Regular excursions to the various points of landscape and floricultural interest in and about the city of Athens. Text: "The Manual of Gardening," by L. H. Bailey. Other references, "Landscape Gardening," by Waugh; "Landscape Gardening," by Maynard; "Kemp's Landscape Gardening," by Waugh; "Principles of Floriculture," by White. Home study required.

Cotton Industry 9. Summer Cotton Grading School includes a thorough study of the different grades and types of cotton bought and sold in Georgia as compared with the official grades prepared by the U. S. Bureau of Standards. Hundreds of different samples are handled and studied each afternoon for five consecutive weeks.

Modern warehouse construction, cotton insurance, buying and selling on both spot and future markets with the necessary bookkeeping connected is given sufficient consideration to enable the

student with little additional experience to take charge of a warehouse and buy and sell cotton in open market.

Each student who satisfactorily completes the course will be given a certificate of efficiency. When proper entrance requirements are met, students will be given one and one-half hours college credit. *Professor Rast.*

This course may be taken spearately or in connection with Cotton Industry 10.

Cotton Industry 10. One conference each day reporting reviews of cotton breeding literature and details of experimental work in progress with cotton. One two-hour laboratory period each day, making cotton hybrids and studying F1, F2, and F3 hybrids previously made is also required. A study of oil content in seed from different varieties and strains will be made with a view of increasing this constituent by selection.

This course is especially designed for students who specialize in Cotton Industry. Courses 4 and 5 are prerequisite, and it should be taken in connection with Cotton Industry 9. The two taken together constitute three hours college credit. *Professor Rast.*

FOREST RANGER SCHOOL
Forest Camp, June 21 to August 15

The Ranger School is created to supply a demand for a short course of training in practical forest engineering, but does not prepare for a position in professional forestry. The object of the work is to make a man, already acquainted with woods work, more efficient in his labor. The school is open to men already in the forest service, woodsmen who desire to prepare for the ranger examination, and lumbermen who desire technical training in timber cruising and surveying.

A number of textbooks will be required in connection with the various courses of study but these may be purchased through the school if the order is placed early. The camp library will contain a good assortment of forest literature and all the important lumber trade and forest journals. The school day will consist of eight hours —8 to 12 o'clock a. m., and 1:30 to 5:30 p. m., with the exception of Wednesday afternoon and Sunday. Work will be arranged for every day of the week.

Expenses. In addition to the regular tuition of $10, there is a laboratory fee of $10 to cover cost of equipment. Board may be had at the camp mess at a very reasonable figure. The mess will be conducted upon a coöperative basis and the indications are that the charge will not be more than $4 per week.

Admission and Credit. The camp is open to men of good character who have attained an age of 18 years and have completed their grammar school work. Upon completion of the course of study

there will be held a "model" ranger examination, successful competition in which entitles a man to a certificate from the school. To those men possessing the necessary qualifications, who desire to matriculate in the Forest School, credit will be given for the freshman summer camp.

Course of Study

Dendrology. The identification of trees and shrubs, native and introduced, common to Georgia and the south. Special stress placed upon characteristics present only in cut logs. Herbarium required from each student.

Surveying. Use of box compass in running lines, pacing, location, platting notes, mapping, methods of survey, resurvey, marking corners. Text: Carey's "Handbook for Northern Woodsmen."

Mensuration. Units of measurement, log rules, estimating itmber, use of volume tables, methods of reconnaissance. Text: Graves' "Forest Mensuration."

Lumbering. Study of woods operations, tools used and organization of work, methods of transport, milling. Scientific management of woods operations. Note-book and report.

Special Lectures. As opportunity offers, arrangements will be made for address upon pertinent subjects by Forest Service officials, prominent lumbermen and visiting teachers. Experts in various lines will discuss fire protection, forest tenancy, grazing in the forest, reconnaissance work, camping and woodcraft.

In order to make proper arrangements it will be necessary that all applications be in the hands of the director not later than May 15.

WOODCRAFT SCHOOL

Forest Camp, July 5 to August 15

There is a growing tendency to introduce nature study, forestry and agriculture in the secondary schools of the state. The Nature Study School is created to supply this demand. This school is open to teachers and prospective teachers of both sexes and to mature men and women who desire a general knowledge of the woods and fields. Every facility will be offered those desiring to collect material for class room demonstration.

For further information refer to announcement of this school.

LOCATION OF FOREST CAMP

Forest Camp is located on the Georgia Tract, a national forest situated in Fannin and Union counties, and is about twenty miles southeast of Blue Ridge in the heart of the Blue Ridge Mountains. The camp is situated on the picturesque Ocoee river, a mountain stream some seventy-five feet in width, affording good bathing, fishing and canoeing.

Fuller particulars may be obtained from the bulletin containing announcements of the Forest School.

BOYS' AND GIRLS' SHORT COURSES

To meet the requirements of the boys and girls who have won short course scholarships in corn, canning, pig and poultry club work, special summer courses have been arranged. The instruction is elementary, practical and visualized as far as possible by application or illustration. These courses are offered for August 8-16.

FOR CORN AND PIG CLUB BOYS

Soils and Fertilizers. Five lectures. A careful study of nitrogen, phosphoric acid, and potash, the sources from which we can get these and their function in plant development A careful study of nitrogen, phosphoric acid, and potash, the sources from which we can get these and their function in plant development. A careful study of formula—what they mean, etc., will be given. Home mixing of fertilizers will be stressed and the boy will be shown how to do this work accurately. A detailed study will be given of the most general types of soil found in Georgia, to what crops they are best adapted, and how best to handle them to get maximum yields.

Rotation of Crops. Five lectures. A simple study of the best methods of crops rotation and the effects on increased production. Special stress will be laid on winter cover crops and on all forms of useful legumes.

Seed Selection. Five lectures. How the boys may improve the producing power of plants by selecting seed from the field. How to grow improved varieties of seed and how to care for same. Cereal judging will be stressed and the boys will be required to do a considerable amount of this work in the laboratory.

Live Stock. Five lectures. The boys will be required to study closely the work being done at the College in regard to dairying, beef production, hog raising, and horse breeding. Inspection of each of these will be made by the boys with the professor in charge, and they will be required to judge according to score card after being given the lecture.

Farm Machinery. A careful study of all forms of improved farm machinery will be provided and the boys will be required to handle same.

Farm Poultry. The poultry course for boys is designed to give them practical knowledge of chicken raising on the farm. Incubation, care of chicks, feeding, housing and marketing will be among the subjects discussed. Two hours each day will be given to this work and the course will be made as practical as possible. The boys who complete this course should be able to handle and care for a good sized flock of chickens. Laboratory work will consist of inspection trips to model poultry farms, operation of incubators, killing and dressing poultry for market.

Field Observation. The boys will be taken in charge and shown the farm buildings, farm equipment and work being done on the College farm. Special stress will be laid on the test plat and the alfalfa fields.

Daily Record and Booklets. The boys will be required to write an attractive story of how they grew their acres of corn in 1917. These will be put out in booklet form. An outline for the story and helpful suggestions will be given.

Anatomy and Physiology. A series of five lectures, given in simple language, including studies of the blood, circulation, foods, digestion, and suggestions for the care and handling of farm animals.

Home Gardening. Five lectures. This course of lectures will take up the fundamental principles of gardening, discussing soils, fertilization, handling of plants, varieties and cultural methods, particularly adapted to the home garden.

Home Orchard. Five lectures. This course will consist of a general discussion of fruits and varieties, soils and fertilizers as well as cultural methods required. Special attention will be given to the home fruit acre.

FOR CANNING AND POULTRY CLUB GIRLS

Practical Farm Poultry. The poultry course for girls is designed to give them a practical knowledge of chicken raising on the farm. Two hours each day will be spent in this work. A series of short lectures will be given which cover the most important points in feeding, incubating and brooding, housing, caring for and marketing the eggs, killing and dressing fowls and in preventing disease in the flock. Following the lecture the girls will take laboratory work or will be taken out into the poultry yards where they will be given a chance to become familiar with the different varieties of chickens common in Georgia, and learn the methods of poultry raising practiced at the College poultry yards. The girls will be expected to set up and start an incubator and brooder, assist in killing and dressing fowls for cooking, make lice powder, test eggs and do other practical work.

After completing this course a girl should be able to take up poultry work at home with increased interest, and make it pay.

Home Vegetable Gardening. This course is designed to teach the fundamental principles of vegetable gardening by going into a discussion of the following: varieties, plant propagation, soil fertilizing, soil preparation, transplanting of certain varieties, summer and winter cultural methods, the use of garden implements, fighting insects and preventing disease.

Ten lectures are given in this course. One entire lecture is devoted to the tomato, since this vegetable has aroused a great deal

of interest with the advent of the girls' canning clubs. The remaining lectures are upon groups of vegetables, and are so given as to teach principles rather than routine of gardening.

Cooking and Food Study. Ten two-hour periods are devoted to cooking, the work being planned with the two-fold object of teaching some fundamental principles of cookery and giving the student skill in the preparation of wholesome dishes. The lessons will include cooking green vegetables, starchy vegetables, making cream soups, making muffins, biscuit, light-bread, sandwiches and coffee; cooking cereals and meat stew in a fireless cooker, and preparing the chickens dressed in the poultry class for table. A number of periods will be given to the study of foods. The classes of food and their function in nutrition will be taught by experiments, use of charts and lecture. The selection of foods for a healthful diet will be considered in a brief but practical way. .

Rural Home Conveniences. A practical course illustrated by pictures, charts, and the articles themselves whenever possible. The course will develop a knowledge of conveniences leading to sanitary conditions in the farm home and to economy of time and energy on the part of farm girls and women. It will demonstrate how such conveniences may be introduced into all the homes at a minimum cost; how many simple home-made inventions may be substituted for the much more costly commercial outfits.

The following subjects will be included: Water-works systems; lighting systems; labor saving conveniences in the kitchen; cement walks; screens in doors and windows.

Farm Dairying. A practical course in Farm Dairying, covering five periods, two hours each, will be given as follows:

1. Milk; composition and treatment for household use.
2. Cream; its separation from milk and treatment for butter making.
3. Butter; how to make it of the best quality and secure the greatest yield at the least expenditure of labor and for equipment.
4. Dairy Products; scoring and marketing.
5. Testing milk and its products for fat, acidity and quality.

Home Orchards. This course consists of a general discussion of fruits and varieties, soils and fertilizers as well as cultural methods required. Special attention is given to the home fruit acre.

THREE MONTHS OR WINTER COURSE IN AGRICULTURE

Short courses of instruction in agriculture and related subjects are offered for the benefit of those who are engaged or expect to engage in farming, and yet who are so situated that they cannot undertake a full college course of study. This course is given dur-

ing the winter when work is least pressing and the time can best be spared. The course consists principally of the regular work provided during the winter term of the one-year course, with such additional elective subjects as the student finds he can conveniently carry after consulting the president of the College.

SHORT COURSES FOR FARMERS AND FARM WOMEN

A ten day's Short Course will be given for farmers and farm women beginning January 1, 1919. No entrance requirements are specified and there is no tuition or fees except $1 for a registration fee. The course is open to all farmers and farm women.

The object of the course is to present essential facts in a practical way on timely agricultural subjects. No work is given that does not find practical application in the every-day work of the farm. For the men there will be courses in farm management under boll weevil conditions; livestock and feeding; swine production; cereals and legumes; plant diseases and insects; orchard management; farm machinery and engineering and woodland management. For the women courses will be offered in food conservation; study of food values; cookery of foods; household management; dairy husbandry; gardening and fruits; poultry husbandry and floriculture.

The lectures offered in the several short courses are summarized and presented to the student on mimeographed paper which he may file and keep for future reference. When the course is over each student has fifty lecture sheets comprising a ready reference book on the subjects which he has studied.

AGRONOMY (Short Course)

Cereal Production. Five lectures. Various cereals will undoubtedly be substituted for cotton in a large part of the state within the next few years. The College has secured a considerable amount of data relative to the different cereals that will be presented in these lectures. Improved home grown seeds are the best that can be obtained, and especial attention will be given to methods of selection in improving the cereals. *Professor Childs.*

Cereal Judging. Five demonstrations. Fifteen varieties of wheat, thirteen varieties of oats, fifteen varieties of barley, and three varieties of rye have been grown at the College for the past season. The student will be given a chance to become familiar with these different sorts. The qualities of each as adapted to grazing, hay production, or grain will be studied. This will be helpful not only from the standpoint of securing the sorts best adapted to different conditions in the state but also in avoiding undesirable sorts. *Professor Childs.*

Legumes. Ten lectures. Considerable interest is being manifested in the velvet bean, especially the early sorts, also in soy beans and peanuts. A discussion of the use of these will be given, with especial reference to their adaptation to different sections of the state. The College has been growing a number of varieties, and yields both of grain and hay in many instances can be given. Special attention will be paid to the soil requirements, fertilization and inoculation. The winter growing legumes will be discussed as well as those that are grown in the summer. *Professor Fain.*

Demonstration of Legumes. Five periods. Much interest is being manifested in early velvet beans and a great deal of confusion exists in regard to varieties. These demonstrations will afford an opportunity to become familiar with the different sorts, both in the pod and threshed. The soy bean has a very wide range in the state. There is quite a difference in varieties and the College has a sufficient number of these on hand both in press specimens and grain to give a clear idea of the character of each of the varieties grown. Inoculation methods will also be studied. *Professor Fain.*

Farm Management for Boll Weevil Conditions. Ten lectures. It will be necessary to reorganize many farms in the state on account of changing conditions. Others should be reorganized because they are not paying. This course of lectures will consider the principles underlying the best organization of the farm with especial reference to the peculiar needs in this state. A number of records of successful farms in this state have been secured. These will be presented as examples. These farms will be able to withstand such adversities as the boll weevil because they are based on the right principle. In producing new crops, new markets will have to be sought. Marketing farm products will be given special attention. *Professor Fain.*

Farm Management Demonstration. Ten periods. Records of a number of farms will be taken and the income for each worked out. By using the blanks that can be furnished by the College, each member of the class will be able to ascertain definitely each year how the farm business has prospered. *Professors Ward* and *Veatch.*

Soils and Crops. Ten lectures. Natural adaptations of soils to certain crops and cropping systems has led to a definite knowledge of the character of soils. The make-up of the general soils of Georgia will be considered including their origin, physical properties and plant food content. How to manage these soils to increase their crop-producing power will be studied. The moisture supply and control will receive attention as well as those practices that conserve plant food. Organic matter is one of the most needed substances in Georgia soils, and special attention will be given to its uses and value as well as means for supplying it. Lime will be considered in its relation to improving the soil. *Professor Crabb.*

Farm Drainage. Five lectures. History and development of farm drainage. A discussion of kinds of soil in the state requiring drainage and effect of proper drainage. Drainage of small tracts by open ditches, by tile, cost and comparative merits of each. Tile drainage as an aid to terracing hillsides and rolling areas will be discussed and illustrated. Drainage problems peculiar to each section of the state will be studied and successful solutions evolved. The state drainage law will be analyzed. Coöperative district drainage will be explained. *J. V. Phillips*, Senior Drainage Engineer.

Demonstration of Tile Laying. Five periods. The use of agricultural tile is rather new in this state, and for this reason the demonstration of the various processes, such as staking out a ditch, opening it up, bringing the bottom to grade, placing and bedding tile, will be given. The value of the drain tile depends a good deal on how it is put down, and since there are only a few expert tile layers in the state, this phase of the work will be stressed. Open ditches and general drainage system will also be given attention. *J. V. Phillips*, Senior Drainage Engineer.

Fertilizers. Ten lectures on fertilizers. A careful study will be made of the effect of various mineral elements in the soil on plant growth; the best means of supplying those in which the soil is most likely to be deficient; the sources of nitrogen, phosphoric acid and potash, and methods of purchasing, mixing and applying these various constituents to the soil for the purpose of producing maximum crops. Liming soils, crop rotations and their relation to maintaining the plant food supply will be discussed. *Professor Crabb.*

The Cotton Plant. Five lectures. These will deal with a brief history of the cotton plant, and the classification of cotton according to varieties. As much time as possible will be spent in the study of individual plants, including methods of selection for improvement, such as increasing the earliness in order that profitable crops may be made under boll weevil conditions. Records of plants from the breeding plots in the demonstration field form excellent material for graphic illustrations of the principles involved. Some of these lectures will also be illustrated by stereopticon to show damage done to different types of plants by the boll weevil. *Professor Rast.*

Cotton Cultivation. Five lectures. These lectures will include the preparation of land; the best methods and time to apply fertilizers; details of preparation immediately before planting; how and when the cultivation of young plants should be begun, and the kind of implements best suited to these purposes. All of these lectures are to include discussions of the best practical methods of producing maximum yields of cotton under boll weevil infestation. *Professor Rast.*

Cotton Grading. Ten demonstrations. In this course the student will have an opportunity to handle and grade samples of cotton each day. *Professor Rast.*

ANIMAL HUSBANDRY (Short course)

Feeds and Feeding. Ten lectures on Feeds and Feeding. This course reviews the sources of feeding stuffs available for livestock, special emphasis being laid on the value of cotton seed and its by-products. Other materials produced in the state which can be utilized to advantage are discussed. The gross anatomy, the physiology of the digestive organs, and the preparing and compounding of balanced rations for maintenance, milk and butter production, and for fattening and growth will be given consideration. *Professor Martini.*

Breeds and Breeding. Ten Lectures. In this course the origin, history and development of the various breeds of horses, cattle, sheep and swine adapted to Georgia will be considered. Methods of introducing improved animals will be discussed, and attention will be given to the subject of animal breeding which will include a consideration of selection, heredity and the other fundamental laws of animal reproduction. *Professors Jarnagin* and *Bigford.*

Stock Judging. Five periods. The score card is used to familiarize the students with the important points of the different classes of livestock. With the records of production of the dairy herds, the correlation between form and function can be clearly demonstrated. The stock judging work includes horses, hogs, dairy and beef cattle. *Professors Jarnagin* and *Goodwin.*

Beef Production. Five lectures. This work is especially designed for farmers who contemplate the establishment of beef herds. . It includes a discussion of the breeds of beef cattle adapted to this section, the methods of breeding, feeding and management, and a discussion of the available markets. *Professor Bigford.*

Swine Production. Five lectures. This course will include the selection of breeds, grazing and feed crops, methods of breeding, feeding and handling and construction of the necessary hog houses, fences and equipment. *Professor Goodwin.*

Dairying. Five lectures. This course is designed to give practical assistance to dairymen. The foundling of a herd, its feed and management, crops to be grown, pasture improvement and the different methods of marketing the product with the advantages and disadvantages of each system, will be considered. The breeds of dairy cattle and the construction of barns and silos will be discussed. The business of dairying, to give more dollars to the man who milks, will be stressed. *Professor Goodwin.*

Dairy Demonstrations. Five practice periods. Practice in judging dairy cattle, separating cream, testing milk and cream for butter-

fat and buttermaking will be given. Special emphasis will be given to the production and care of cream and the proper sterilization of dairy utensils. Home made, inexpensive dairy equipment will be studied. *Professor Goodwin.*

HORTICULTURE (Short course)

Trucking. Five lectures. This course includes discussions of soils, cultivation, fertilization, harvesting, marketing and other trucking problems. *Professor R. E. Blackburn.*

Orchard Management. Ten lectures. These will include discussions of location, choice of plants, planting, tillage, cover crops, fertilization, pruning, thinning, frost, spraying, picking, packing, and selling. *Professors Stuckey* and *R. E. Blackburn.*

Spraying and Pruning. Ten demonstrations, consisting of practice in mixing and applying sprays to orchard and garden, pruning trees, etc. *Professors Stuckey* and *R. E. Blackburn.*

VETERINARY WORK (Short course)

Contagious Diseases. Ten lectures. This course will take into consideration the contagious diseases of farm animals which are of most importance to the Georgia farmer. Measures of prevention, eradication, control and treatment will be given. *Dr. Burson.*

Veterinary Clinic. Five periods. Clinics or demonstrations will be conducted at the Veterinary Hospital in connection with the work on contagious diseases and other diseases. *Dr. Burson.*

FORESTRY (Short course)

Wood and Its Uses. Ten laboratory periods. Identification of common woods which adapt them to specific uses; uses of woods. *Professor Berry.*

Marketing Farm Woodland Products. Five lectures. Rough methods of estimating timber; wood measurements ;log grading; specifications; markets. *Professors Berry* and *Godkin.*

PLANT PATHOLOGY (Short course)

Diseases of Horticultural Crops. Ten lectures. Identification of common fruit diseases of orchard and garden Preventative and control measure. *Professor Godkin.*

Diseases of Cotton, Sweet Potato and Truck Crops. Ten lectures. Characteristic appearance of common diseases; preventive and control measures. *Professor Lapke.*

Diseases of Cereal Crops. Five lectures. Common diseases which may be prevented or controlled; selection of seed grain; control of smut; storage and handling; seeding; legislation. *Professor Berry.*

Plant Diseases. Five laboratory periods. Causes; favorable con-

ditions; action of disease organism; methods of prevention and control. *Professor Berry.*

POULTRY HUSBANDRY (Short course)

Poultry Breeds and Breeding. Five lectures. These lectures will be studies of the different breeds and varieties best suited to farm conditions; the selection, housing and mating of the breeding stock, and culling out poor producers. *Professor Wood.*

Incubation and Brooding. Five lectures. Natural and artificial incubation and brooding will be considered. *Professor Green.*

Poultry Breeding. Five lectures. A study of the different kinds of feed required for growth, producing eggs, or conditioning birds for market. *Professor Wood.*

Practice Periods. In addition to the above lectures, several practice periods will be given on Poultry House Construction, Selecting Breeders and High Producers, Operating Incubators, Candling, Grading, and Packing Eggs, Killing and Dressing Fowls for Market and any other practical work that is desired. *Professors Wood* and *Green.*

HOME ECONOMICS (Short course)

Food Study. Ten lectures. These will consist of a study of food habits and dietary standards together with work on the fuel values of different foods. Especial attention will be given to the use and preparation of substitute foods. This course is designed to help in carrying out the plans of the food administration. *Miss Dowdle.*

Cooking. Ten periods. This course will include home canning of fruits and vegetables; the cookery of vegetables, soups, breads, eggs and meats; a study of food principles, comparative food values, the relative cost of foods, and combinations of foods in a healthful diet. The feeding of growing children, and menus for school lunches will be emphasized. Opportunity will be given for laboratory practice. *Mrs. Wood.*

Home Vegetable Gardening. Ten lectures. These lectures will deal with a brief outline of the types of soil, soil preparation, soil cultivation, planting of seeds, handling and setting plants, garden insects and diseases and their control, and the cultivation of summer and winter varieties of vegetables adapted to Georgia. *Professor Ragsdale.*

Dairying. Five lectures. In this course, the care and handling of milk and its products in the home will be stressed. Different methods of marketing the products, advantages and disadvantages of each system, the manufacture and marketing of butter and cottage cheese and the proper handling until marketed will be treated. Various methods of cream separation will be considered, also the testing of milk and cream for butterfat. *Professor Goodwin.*

Dairying. Five practice periods. This will consist of practical work designed to follow up the lectures. Practice will be given in churning, printing and packing butter, the testing of milk and cream, cheese making and the use of the cream separator. *Professor Goodwin.*

Poultry Raising. Ten lectures on Breeds and Breeding. The course will consist of a study of the different breeds and varieties best suited to farm conditions; the selection, housing, and mating of the breeding stock, and culling out poor producers. A study of the different kinds of feed required for growth, egg production, and fattening for market will be given. *Professor Wood.*

Practice Periods. In addition to the lectures, practice periods will be given on Poultry House Construction; Selecting Breeders and High Producers; Operating Incubators; Candling, Grading, and Packing Eggs, and Killing and Dressing Fowls for Market. *Professor Wood.*

AGRICULTURAL ENGINEERING (Short course)

Farm Machinery. Preparation Machinery. With various types of machines for illustrations, discussions will be given concerning mechanical principles, adaptations to varying conditions of soils of Georgia, labor saving and general efficiency of plows, manure spreaders, lime distributors, harrows, rollers and planks. *Professor Hart.*

Seeding Machinery. A consideration will be given drills, single and double row cotton planters with complete analysis of mechanical arrangements and requirements. *Professor Welch.*

Harvesting Machinery. Mowers, rakes, binders, corn binders and corn sledge will be discussed relative to their mechanical requirements for efficiency, careful investigations being made of the parts of each machine. *Professor Welch.*

Storing Machinery. Threshing machines, silage cutters, huskers, shredders, hay balers, etc., will be considered with reference to the mechanical principles involved and the proper handling for greatest efficiency. *Professor Hart.*

Farm Motors. Five lectures will be given on gasoline, kerosene, and stationary and traction engines, the various types of engines being used for illustrating the discussions. *Professor Hart.*

EXTENSION DIVISION

It is the purpose of the College of Agriculture to aid all educational activities which are being carried on in the state. The fulfillment of this purpose is one of its greatest obligations to the state and every effort will be made to further th ework of extension teaching. Two great ends are to be subserved by work of this character. First, the systematizing of the educational activities of the state and the raising of these to a higher level of efficiency. Second, the dissemination of useful knowledge which has accumulated in recent years, but is not generally appreciated as it should be, and which cannot be brought to the attention of adults and those remotely situated from the college save through extension agencies.

SMITH-LEVER ACTIVITIES

Recognizing the importance of this character of work, the General Assembly of Georgia during the annual session of 1917, re-appropriated $40,000 to the State College of Agriculture to be used for extension teaching, and in addition thereto made an appropriation of $67,129.28 to offset the appropriation of $77,129.28 for the year 1918 made by the federal government under the Smith-Lever Act of May 8, 1914. Under the same act of congress an increased amount becomes available for extension teaching and farm demonstration work year by year, providing the state appropriates an equal amount.

In accordance with this action of the state legislature and the federal government, the board of trustees has organized the work of the several departments constituting the College, so that they can carry on their proper share of extension work. Through the extension division, the extension schools, special demonstrations, boys' and girls' clubs, home economics, farmers' meetings and miscellaneous conferences are organized and directed.

Every member of the college staff gives some of his time and effort to extension activities.

AGRONOMY

The division of agronomy is utilizing a series of test plats on different types of soils of the state to secure data concerning their principal defects, and what forms of fertilization and crop rotation are best adapted to build them up. This department maintains a twenty-four acre field for the purpose of carrying on investigations relative to corn and cotton breeding, crop rotations, fertilizers and soil management. This information is invaluable to the people of the state and is distributed in bulletin form at the meetings held by the extension service.

The traveling field representatives of the division of agronomy are

also engaged in advising the farmers relative to the improvement of certain strains of cereals, corn and cotton which are being developed through seed selection and hybridization.

AGRICULTURAL CHEMISTRY

The division of agricultural chemistry has undertaken a physical survey of several counties and is making analyses of all the type soils found therein. A close coöperation of necessity exists between the departments of agronomy and agricultural chemistry in this work, which is one of the most fundamental character, since it means ascertaining the soil deficiencies and determining the methods by which these can be supplied. Several men are employed by this division.

ANIMAL HUSBANDRY

The division of animal husbandry is actively engaged in a number of extension problems, Six specialists in live stock are devoting all of their time to field work. In so far as possible, these men work through the county agent, thus multiplying their efficiency materially. Since there is no adequate supply of foundation breeding stock, one of the first problems has been to buy registered animals for the farmers. In this way much better individuals have been secured for the same price than could have been gotten by individual purchase. Country live stock associations have been organized, and in so far as possible an attempt has been made to have all the farmers in a community adopt one breed. Advice has been given as to the laying out and equipping of stock farms for the most efficient and economical operation. A very important part of the work has been the construction of silos. Many swine demonstrations were carried on with farmers in southwest Georgia during the last year.

One of the most noteworthy developments has been the establishment of coöperative creameries at Athens, LaFayette and Moultrie, in connection with the Agricultural College. It is believed that through these creameries the farmers will realize fifty per cent more for their butter than they have been securing in the past. With this incentive it is felt that many more farmers will find it profitable to keep dairy cattle in the future.

Steer feeding demonstrations have been conducted on a number of farms. Calf clubs have been organized for the purpose of producing baby beef. Considerable assistance has been rendered the live-stock departments of many of the county fairs.

On the College farm more than 200 head of live stock are maintained for the purpose of securing data to be distributed in bulletin form for use in extension schools and agricultural meetings.

Two instructors in poultry husbandry have charge of this special

line of work and they are prepared to advise with all interested in this important industry. These men are organizing and developing the poultry club work in various counties of the state.

HORTICULTURE

The division of horticulture is carrying on extension work in connection with the peach, apple, pecan and trucking industries. Demonstrations in spraying, pruning and orchard heating and other practical problems are given. This department is also supervising the work of the county demonstration agents in developing the trucking industry in a number of north and south Georgia counties.

AGRICULTURAL ENGINEERING

The department of agricultural engineering assists farmers in the preparation of plans for farm houses, barns and other buildings necessary on an up-to-date farm, and furnishes an extension specialist to aid county agents in carrying out the plans.

COTTON INDUSTRY

The division of cotton industry is distributing seed of a selected variety which is proving highly resistant to anthracnose, and is engaged in investigating many vital problems associated with the more economic production of cotton in the state.

VETERINARY MEDICINE

The division of veterinary medicine is manufacturing hog cholera serum. It is also teaching farmers the methods of inoculating hogs with the serum and aids county agents and owners of hogs in controlling hog cholera by the use of serum and sanitary measures. It is possible through the use of serum to largely control the destruction wrought by hog cholera. Its importance, therefore, needs no further emphasis. This department is also coöperating in every possible way with those agencies which are endeavoring to eradicate the cattle tick, and to control many diseases which cause serious loss to Georgia farmers.

PUBLICATIONS

Through the publication service of the College and particularly through the use of newspaper plate in the weekly papers, the College is reaching a majority of the reading farmers of the state on an average of once a week during the entire year, with information considered vital to the welfare of Georgia agriculture. The daily papers and the agricultural journals are also used, all such publications in the state evidencing a desire for coöperation in this form of extension service of the College.

Bulletins and circulars are now being issued by the Extension Division and in accord with the Smith-Lever bill under which the franking privilege is enjoyed, but all such bulletins and circulars are considered and numbered as of the series issued by the College. In other words, they are not separate publications and should be looked for in the College serials.

BOYS' AND GIRLS' CLUBS

Another feature emphasized by the extension division is the organization of boys' and girls' industrial clubs. The boys are encouraged to grow corn and raise pigs, calves and lambs under specific rules and regulations laid down by the College, and the girls to organize canning and poultry clubs and to take a greater interest in cooking and sewing. In this work the extension division has had the sympathetic coöperation of the great majority of the county school commissioners, the state department of agriculture, state and local educational institutions, business enterprises and a great number of interested individuals. Liberal prizes have been offered by a number of organizations and individuals. Through the organization of these clubs the attention of the boys and girls is being directed to a more thorough appreciation of the possibilities of the soil, the need of the proper use of fertilizers and acquiring a knowledge of plant and animal life. In other words, agricultural instruction of a fundamental character is being introduced into the schools of the state, and the fact that the boys have often been able to produce 100 bushels of corn per acre, has demonstrated the economic value of work of this character.

BOLL WEEVIL PREPAREDNESS

The Mexican cotton boll weevil during 1915, 1916 and 1917 spread over the greater part of the cotton belt of Georgia and in 1916 and 1917 did considerable damage in the southwestern section of the state. Because of the invasion of this pest, the extension forces have during the past two years been giving a great deal of attention to the growing of cotton under boll weevil conditions and the utilization of the surplus acreage made vacant as a necessary means of combating this evil. Several live stock specialists are now employed by the College in coöperation with the United States Department of Agriculture, business interests and county officials. These men, in coöperation with the live stock and farm crop specialists, have waged several campaigns in the interest of cotton growing and diversified farming under boll weevil conditions. In 1917 five parties composed of boll weevil specialists, live stock specialists, county agents and specialists on soil crops and horticulture, toured the cotton district of the state and held several meetings in each county, giving the

farmers all available information necessary to successful farming under weevil conditions. Because of the ravages of this pest, live stock farming has received a great impetus and may car loads of pure bred cattle, hogs and work horses have been introduced. The surplus acreage has been planted to peanuts, velvet beans, cowpeas, oats, corn and other general farm crops necessary for the increased production of livestock. Several oil mills have been constructed to take care of the surplus acreage in peanuts and many feed mills have been organized to utilize velvet bean and corn products. In special localities, the trucking and fruit industry has been materially improved.

EXTENSION SCHOOLS

It is believed that one of the most efficient ways by which the farmer can be served is through the organization and promotion of extension schools. The people of each community put up a minimum guarantee of paid-up registered students before the school is given. Extension Schools are now being held at the District Agricultural Schools where dstrict demonstration agents are located. The extension schools form the basis of a week's farmers' short course for the district agricultural schools. They are of four days' duration and are conducted in a thoroughly practical manner. Among the subjects discussed are the mixing and application of fertilizers, soils and soil cultivation, tillage and tillage implements, the selection and improvement of seed corn and cotton, diseases of live stock, dairying, poultry husbandry, fruit and truck problems, spraying and orchard management and the feeding and care of live stock. A new feature of the extension school is the Home Economics Department which has been added this year and is proving of much interest to farm women and girls. Specialists in cooking, home canning, preserving, butter making, pultry and other kindred subjects, give instructions and demonstrations to farm women and girls in attendance at the school.

FARMERS' INSTITUTES

Speakers are sent from the College to address farmers' gatherings or to discuss subjects of special interest to a given community. The officers of the College are working in coöperation with the county school commissioners, and lecturers are sent to teachers' institutes for the purpose of discussing ways and means by which instruction in agriculture in the common schools as provided by law, may be inaugurated. No service can be rendered the people of the state at this time more important than that of fostering the teaching of the underlying principles of agriculture in the public schools.

Another feature of extension work which the College is fostering

is correspondence with farmers. Thousands of letters are annually answered, giving definite information relative to fertilizers, soils, crops, care and management of live stock, orchards and gardens. Every farmer in the state is invited to take advantage of the free information afforded by correspondence. In this way at the cost of a three-cent stamp, any individual may obtain information worth a great deal of money to him.

The College stands ready to assist every organization and individual entitled to its service. .

REGISTER OF STUDENTS 1917-1918

GRADUATE

Maddux, Henry Towns---Athens
Sell, Edward Scott---Athens
Still, Dennis David---Loganville
Wilder, Cecil Norton---Athens

SENIOR

Benford, Jesse James---Bowdon
Bexley, James Millard---Moreland
Bussey, Arthur Stewart---Waverly Hall
Craig, Samuel, Jr.---Lawrenceville
Ethridge, Roy Lee---Auburn
Harris, Ray Carter---Wrens
Neville, Walter Edward---Rabun Gap
Roesel, Theodore Frederick, Jr.---Augusta
Skinner, Louis Irvin---Augusta
Sorrells, Judge Clifford---Monroe
Stevens, John Law---Valdosta

JUNIOR

Amis, William Dean---Athens
Archer, Hartwell Dewey---Sparta
Bennett, Frederick William---Jefferson
Broach, William Earle---Campton
Cleckler, John Seaborn---Palmetto
Cown, John Almand---Loganville
Elrod, Julius Mitchell---Jefferson
Etheredge, John ---Ty-Ty
Garrett, Fred Charles---Columbus
Hadley, Evan Worthe---Thomasville
Hastings, Henry Stanley---Atlanta
Hopper, Lehman Edgar---Rabun Gap
Ingram, Charlie Benton---Barney
Mobley, Charles Watson---Athens
Moore, Joe Hewell---Carlton
Owens, William Gladstone---Canon
Thornton, Alfred Melba---Fayetteville
Wang, Shan Chuan---Sze Chuan, China
Welch, Alva Curtis---Thomasville
Whitaker, Lee Glanton---Harlem
Wingate, William Gordon---Camilla
Woodard, Otis ---Dexter
Whelchel, Emmett Vickery---Douglas

SOPHOMORE

Biles, Homer Guy---Griffin
Brooks, Edwin Giddings---Blakely
Calhoun, John Heidt---Atlanta
Cantrell, Thomas Luther---Chatsworth
Conyers, James Laurens---Cartersville
DeLa Vega, G. A. K.---Fucinnan, Argentina
Dickinson, George William---Union Point
Drake, James Benjamin---Turin
Drexel, Richard J.---Tifton
Edwards, Roy Lee---Monticello
Eskew, Walter Reid---Toccoa
Evans, John J.---Augusta
Hill, Roger Minot---Athens
Hodgson, Frederick Cruse---Athens
Hodgson, Prince Allen---Athens
Howald, George A.---Decatur
Kenney, James Heard---Athens
Lanier, Lonnie Richard---Metter
Lee, Valma Augustus---Cochran
Looper, Harry Stuart---Dalton
Lyon, Henry Cosby---Clarkesville
Mather, Jim Alexander---Waverly Hall
Moseley, Oscar Reid---Greensboro
Park, Arthur ---Atlanta
Roberts, Ottie B.---Douglasville
Spears, Herman Wilson---Madison
Summerour, Charles William---Duluth
Vansant, Robert Lee---South Atlanta
Vaughan, Francis Jerome---Cartersville
West, Francis Bartow---Macon
Wight, Warren Candler---Cairo
Woodruff, Herbert Emerson---Dacula

FRESHMAN

Allen, Alfred Fitzpatrick---The Rock
Allman, Fred Larimore---Toccoa
Bailey, John Mitchell---Laurenceburg, Ky.
Barrett, DuPre ---Athens
Bearden, Charles Samuel---Buckhead
Bennett, Alfred Iverson---Camilla
Bennet, Paul Hansell---Quitman
Bishop, James Howard---Watkinsville
Bohanan, Charles Raymond---Lithonia
Boyd, Doyne ---Lonoke, Ark.

Brice, Henry Turner---Quitman
Brodnax, Charles Edward---Carrollton
Burtchaell, Joseph Grey---East Point
Butler, Monroe Arthur---Athens
Cochran, Francis Marion---Dahlonega
Conwell, Edwin Boyd---Lavonia
Cox, Howell Boatwright---Toccoa
Craig, Virgil Guerry---Lawrenceville
Culberth, James Turner---Lake Park
Daniel, George Calhoun---Danielsville
Dasher, Hampton George---Marlow
Davidson, William Houser---Ft. Valley
Davis, Arthur Gordon---Eldorendo
Davis, Thomas John---Savannah
Dunn, Ted ---Buckhead
Edwards, Ernest Aaron---Oxford
Edwards, Troy ---Monroe
Ewing, Orville Berry---Greensboro
Farlinger, Donald Francis---Atlanta
Faulkner, Doc George---Royston
Fitzpatrick, Henry Vaughan---Culloden
Gaissert, Irby Frederick---Madison
Garrett, Roy Crowley---Campton
Griffin, Luther Alfred---Gibson
Griffin, William Herschel---Rome
Hagler, John Carroll---Augusta
Herrington, Paul Grant---Atlanta
Holloway, Kenneth E.---Barwick
Hunter, Bayard Eastman---Atlanta
Huddleston, Frank Williams---Senoia
Johnson, Daniel ---Garfield
Johnson, Mallie Lewis---Garfield
Jolly, Hugh David---Kingston
Jordan, Lewis Morris---Athens
Kicklighter, Lester Parker---Glennville
King, Alfred ---Rome
Lott, Clinton ---Douglas
Maddux, Fred William---Culloden
Mann, Joe Wheeler---Lyons
Maxey, Herbert Allen---Winder
Middlebrooks, Willie Tom---Starrsville
Miller, Russell Dewey---Athens
Moore, Wilmer Lee---Atlanta
Moseley, Oscar Reid---Greensboro
McDonald, D. Bennett---Quitman

McLellan, John McAfee---Dalton
Norris, James Goodman---Newnan
Osborn, Martin Augustus---Watkinsville
Petty, John Byrd---Dawson
Pope, Benjamin Hezekiah---Ochlocknee
Proctor, Ethan Dan---Groveland
Rice, William Brooks---Dublin
Roberts, Daniel Dawson---Macon
Ryals, Pennsylvania ---Ludowici
Saye, Roland Atmar---Athens
Shook, John R.---San Antonio, Tex.
Sims, James Harrison---Douglas
Smith, Thomas Needham---Tennille
Soule, Robert Murray---Athens
Stevenson, Richard Redding---Little Rock, Ark.
Strickland, George Mallory---Concord
Sutker, Nathan ---Savannah
Swann, James Steve---Pike
Talcott, Arthur Whiting---Athens
Tucker, David DeJarnette---Williamston, S. C.
Whatley, Clifford Edward---Reynolds
Whelchel, Hugh Calvin---Douglas
Wilder, Len Bryan---Pelham
Wiley, Hendrix Butler---Eastanolle
Wilkes, John ---Lyons
Wingfield, Perino Boone---Athens

ONE-YEAR CLASS

Adams, George Mortimer---Cusseta
Carver, Simon Newton---Waycross
Chappell, Warthen Thomas---Dudley
Gillespie, Samuel D.---Rabun Gap
Martin, John Henry---Townville, S. C.
Myer, Harold ---Albany
Rubin, Philip ---Savannah
Saunders, Fred Oliver---Coleman
Saunders, Hal Louis---Coleman
Shirley, Sutton Lewis---Tiger
Waring, Charles Ellis---Savannah
Yeomans, Henry Grady---Collins

SPECIAL

Kaiser, Irvin Richard---Atlanta
Kicklighter, Lee Iverson---Glennville
McCall, Lewis F.---Norfolk, Va.

COLLEGIATE SUMMER COURSE

Dowdle, Miss Lois P.----------Athens
Gregory, Harry ----------Athens
Mobley, Charles Watson----------Athens
Park, A. ----------Atlanta
Proctor, Miss Erna E.----------Athens
Snelling, P. W.----------Athens
Strickland, Roy ----------Athens
Taylor, R. G.----------Charleston, S. C.

SUMMER COTTON GRADING COURSE, 1917

Brown, Edgar Jackson----------Hartwell
Britt, W. H.----------Jackson
Boatright, Homer J.----------Lovett
Cooper, Homer E.----------Loganville
Deford, Gustavus C.----------Nashville
Harrison, John Smith----------Cumming
Joel, J. B., Jr.----------Athens
Kelly, Harrison B.----------Monticello
Lemon, E. W.----------Cedartown
Morris, Clen Ruben----------Hartwell
Malone, C. N.----------Atlanta
Parker, Clifford E.----------Bethlehem
Parrish, W. H.----------Cordele
Ratchford, George Henry----------Bartow
Robinson, T. C.----------Commerce
Smith, Hoke Victor----------Blackshear
Talmadge, J. H.----------Forsyth
Weir, John B.----------Athens
Wray, G. H.----------Athens

FARMERS' SHORT COURSE, 1918

Arrendale, John V.----------Clayton
Adair, Shields B.----------Rome
Allen, Walton J.----------Beuna Vista
Alexander, John R.----------Eastman
Aycock, Trammel R.----------Farmington, R. 1
Brooks, W. S.----------Valdosta
Brandon, Tom B.----------Claxton
Boling, Jule B.----------Blairsville, R. 2
Bagby, Gilford D.----------Flowery Branch, R. 1
Bridges, Fred T.----------Wrightsville
Blackwell, Redeen Lee----------Conyers
Baldwin, Joseph Cosby----------Cuthbert
Cole, Clifton L.----------Canon

Chestnut, George Y.----------Moreland
Cunard, John ----------Monticello
Carlton, W. P.----------Union Point
Childs, Ernest W.----------Omaha
Callaway, Hammond ----------Bogart, R. 1
Cromartie, Esten G.----------Hinesville
Daniel, LaFayette ----------Cedar Bluff, Ala.
Davenport, Miss Ethel L.----------Augusta, 646 Broad St.
Dixon, W. N. D.----------Fayetteville
Dent, Gratz ----------Savannah
Duvall, William T.----------Blackshear, R. 1, Box 10
Elder, Hugh Osborn----------Farmington, R. F. D.
Erwin, John R----------Calhoun
Elder, J. P.----------Farmington, R. 1
Elliott, Ituss W.----------Winder, R. 3
Foster, Benjamin Fred----------Zebulon
Fleming, Andrew J.----------Jenkinsburg
Gilstrap, Larry Cowan----------Eatonton
Garner, Wm. H.----------Rockmart, R. 2
Gaddis, Carl H.----------Homerville
Huie, Wade P.----------College Park, R. 2
Harris, Henry H.----------Watkinsville
Hosch, Wm. Hill----------Winder
Hale, Wm. M.----------Pendergrass, R. 2
Hursey, Archibald B.----------Hazlehurst
Irving, Albert E.----------Chatsworth
Jeter, Fred D.----------Franklin
Johnson, Grover L.----------Marietta ,R. 6
Jenkins, Peter L.----------Upatoie
Kennebrew, Jas. C.----------Jeffersonville, R. 1
Kemp, Hilyer H.----------Lawrenceville
Lewis, Charles C.----------Waynesboro
Lumsden, Jesse C.----------Talbotton, R. 3
McClendon, Samuel E.----------Hawkinsville
McGee, Edward P.----------Forsyth
Morton, James W.----------Athens, R. F. D.
Moore, Bertie G.----------Newnan, R. 7
McConnell, Noel ----------Cmmerce
Price, Wm. F.----------Dawsonville, R. 1
Parker, Wm. A.----------Winder, R. 3
Roach, Ernest W.----------Calhoun, R. 1
Rountree, Sam H.----------Folkston
Sawyer, Dale E.----------Marietta
South, Jas. W.----------Toccoa
Strickland, Roy M.----------Athens

Strahan, Elmer R.----------Montezuma
Shaw, Walter T.----------Dawsonville
Smith, Stonewall J.----------Gainesville, R. 9
Schley, Fred ----------Columbus, R. 4
Truitt, Selvia D.----------Watkinsville
Taylor, Elbert D., Jr.----------Colquitt
Thompson, Geo. G.----------Murrayville, R. 2
Turner, D. A.----------Columbus
Wallace, Carl----------Atlanta, 916 Court House
Wisdom, Tom ----------Chipley

COUNTY AGENTS' COURSE, 1918

Acree, W. G.----------LaGrange
Adams, W. C.----------Harlem
Allen, J. L.----------Dawson
Arnold, J. L.----------Darien
Atkinson, F. W.----------Metter
Baker, Eugene ----------Gainesville
Bingham, H. W.----------Covington
Blackwell, J. H.----------Jackson
Boland, W. G.----------Cochran
Broach, W. E.----------Athens
Bryant, C. A.----------Royston
Brown, W. S.----------Hiawassee
Burdette, J. ----------Washington
Chastain, T. G. ----------Atlanta
Childs, W. S.----------Rochelle
Clarke, W. W.----------Thomson
Collier, V. L.----------Moultrie
Cox, Charles ----------Cartersville
Cromartie, H. L.----------Albany
Culpepper, C. B.----------Thomasville
Davis, J. I.----------Bainbridge
Drake, B. M.----------Newnan
Driskell, W. W.----------Sparta
Dunn, J. L.----------Brunswick
Eunice, C. B.----------Douglas
Gaddis, M. F.----------Quitman
Hall, O. D.----------Jeffersonville
Head, B. J.----------Alma
Howard, R. H.----------Perry
Hutheson, F. A.----------Buchanan
Hunter, R. S.----------Decatur
Jackson, E. T.----------Carrollton
James, C. L. ----------Edison

Jenkins, F. L.----------Upatoie
Johnson, J. A.----------Valdosta
Liddell, J. G.----------Statesboro
Long, W. S.----------Danielsville
Lucas, R. E.----------Reidsville
Martin, C. E.----------Hilton
Marshall, George O.----------Americus
McConnell, Bright ----------Commerce
McElhaney, B. E.----------Monticello
Odum, J. E.----------Thomaston
Parrish, H. H.----------Millen
Parket, J. L.----------Alpharetta
Pittman, J. T.----------Vienna
Pitts, D. J.----------Bowman
Pinkston, J. O.----------Colquitt
Petree, R. R.----------Dalton
Rice, G. E.----------Manchester
Rogers, Roy ----------Baxley
Sherrard, Sam H.----------Sandersville
Shedd, J. P.----------Jesup
Shirley, C. V.----------Louisville
Smith, W. R.----------St. Mary's
Sorrells, W. H.----------Leesburg
Stone, B. H.----------Blairsville
Strahan, E. R.----------Rome
Treadwell, D. M.----------Swainsboro
Turner, J. M.----------Cordele
Turk, J. L.----------Calhoun
Tyre, J. B.----------Dublin
Veach, A. C.----------LaFayette
Ward, P. H.----------Cairo
Warren, J. H.----------Hartwell
Watson, O. D.----------Ocilla
Wiley, H. G.----------Crawford
Wiley, T. B.----------Blackshear
Williford, T. Y.----------Lyons
York, Gus ----------Hepzibah

FARM WOMENS' COURSE, 1918

Arnold, Mrs. Alice G.----------Athens
Bottenfield, Mrs. L. S.----------Decatur
Barker, Mrs. Elizabeth ----------Atlanta
Buchanan, Miss Louise----------Eastman
Bass, Miss Julia L.----------Clarkesville
Brawner, Miss Ola----------Demorest

Hobbs, Miss Eva—Chester
Hamilton, Miss Lou—Selina, Tenn.
Jarrell, Mrs. L. B.—Athens
Johnson, Miss Bertha—Washington
Lewis, Miss Cephalie—Augusta
Lumpkin, Mrs. E. K., Jr.—Athens
Latimer, Miss Sallie—Hazlehurst
Miller, Miss Viola—Columbus
Massey, Miss Clemmie—Columbus
McDowell, Mrs. Bell—Monticello
Newman, Miss L. M.—Cusseta
Peterson, Mrs. Edna M.—Tifton
Parkenson, Miss Bonnie—Cusseta
Ruskin, Mrs. Bertha C.—Columbus
Smith, Miss Annie—Gainesville, R. 9
Truitt, Mrs. S. D.—Watkinsville
Wheeler, Mrs. John T.—Athens
Williams, Mrs. Rosa R.—Athens
Wisdom, Mrs. Tom—Chipley

HOME ECONOMICS COURSE

Anderson, Miss Marie—Brunswick
Brown, Miss Elise—Grovania
Bailey, Miss Maggie—Mount Vernon
Bomar, Miss Willie—Tifton
Bradford, Miss Annette—Camilla
Brown, Miss Fay—Lavonia
Bullard, Miss Evelyn—Monticello
Burge, Miss Margaret—Covington
Brown, Miss Lucile—Metter
Cheatham, Miss May—Millen
Camp, Miss Bessie—Newnan
Cartee, Miss Ina—Elberton
Collier Miss Lurline—Jefferson
Carter, Miss Lois—Savannah
DeLoache, Miss Florence—Valdosta
Dempsey, Miss Annie—Trenton
Edwards, Miss Lula—Cartersville
Emerson, Miss Nora—Augusta
Fortson, Miss Jessie—Columbus
Green, Miss Nellie—Danielsville
Green, Miss Sallie—Lawrenceville
Hutchinson, Miss Martha—LaFayette
Henderson, Miss Texas—Moultrie
Houston, Miss Irene—McRae

Johnson, Miss Eliza---Cairo
Jordan, Miss Josephine---Wrightsville
Lowery, Miss Bessie---LaGrange
Moore, Miss Irene---Dahlonega
Matthews, Miss Stella---Bainbridge
Merritt, Mrs. Madge---Sylvania
Morris, Miss Roberta---Swainsboro
Morrison, Mrs. Mabel R.---Eastman
Mathews, Miss Susan---Macon
Phillips, Mrs. Monroe---Monticello
Polhill, Miss Eliza---Zebulon
Phillips, Miss Zella---Blairsville
Rivers, Miss Alice---Decatur
Shaw, Mrs. Eugene---Fort Gaines
Smith, Miss Sarah---Hawkinsville
Smith, Miss Ruth---Dawson
Schley, Miss Mortimer---Preston
Sammons, Miss Ola---Irwinton
Strickland, Miss Annie May---Dalton
Sheppard, Mrs. Bessie J.---Guyton
Smith, Miss Maud---Athens
Saunders, Miss Elizabeth---Clarkesville
Sibley, Mrs. Myrtie---Griffin
Sawyer, Mrs. Ada---Marietta
Thorpe, Mrs. L. V.---Claxton
Thompson, Miss Kemper---Abbeville
Thompson, Miss Lyra---Lumpkin
Turk, Miss Ruth---Homer
Trimble, Miss Fannie---Conyers
Williams, Miss Ruth---Greensboro
Whelchel, Miss Helen---Greenville
Wilson, Miss Clifford---Crawfordville
Weaver, Miss Carruth---Blakely
Whittlesey, Miss Maggie---Cuthbert
Wilson, Mrs. Jessie J.---Sylvester
White, Mrs. Hettie M.---Chipley

CANNING CLUB GIRLS' SHORT COURSE, 1917

Alred, Alice---Jasper
Alred, Violet---Jasper
Britt, Ruth---Macon, R. 1
Burdette, Frances---Washington
Bryant, Bessie---Chipley
Buchanan, Ola V.---Empire
Buchanan, Louise---Eastman

Brabham, Myrtle ---------- Plains, R. 3
Carswell, Mazie ---------- Lizelia
Cartledge, Winnie ---------- Ficklin
Cheek, Annye ----------
Chew, Louise ---------- Millen
Cowart, Ora ---------- Reidsville
Dent, Clara ---------- Douglas
Darnelle, Lottie ---------- Loganville
Davis, Ernestine ---------- Dublin
Dillard, Louie ---------- Monroe
Davis, Elsie ---------- Stilson
Dorough, Ruby ---------- Vienna, R. 3
Gaines, Gladys ---------- Aragon
Guyton, Edna ---------- Cartersville, R. 3
Hiers, Madie ---------- Coffee
Hammock, Pauline ---------- Wrightsville
Hamilton, Zula ---------- Arabi
Harris, Lula Mae ---------- Ashburn
Harrison, Annie ---------- Bethlehem
Hayes, Nellie ---------- Hoschton
Hughlett, Ethel ---------- McRae
Haire, Idell ---------- Bristol
Hill, Wilma ---------- Plains
House, Essie ---------- Rome
Joiner, Oreola ---------- Vienna
Jones, Mary Wylie ---------- Waycross
Jester, Ethel ---------- Atlanta
Jones, Emeline ---------- Coffee
Jenkins, Kate ---------- Dahlongea
King, Aubrey ---------- Lavonia
Kilgore, Lillian ---------- Columbus
Kitchens, Bessie ---------- Oglethorpe
Kennedy, Frances ---------- Collins
Kitchens, Mattie ---------- Covena
Law, Ila ---------- Ellaville
Lake, Lucy ---------- Dublin
Lewis, May W. ---------- Jackson
Long, Mayme Clyde ---------- Tifton
Long, Myrtle ---------- Flovilla
Lynne, May ---------- Beach
Marsden, Hilda ---------- Macon
Marsh, Clemmie ---------- Statesboro
McGee, Lucile ---------- Macon, R. 3
Morgan, Oriska ---------- Macon
Nelson, Ruth ---------- Boston

Odum, Druwillie ---------- Winder
Oneal, Gladys ---------- Jackson
Patton, Ina Delle ---------- Bogart, R. 2
Prater, Clara ---------- Byromville
Poston, Eula ---------- Summit
Powell, Willie ---------- Hartwell, R. 3
Queene, Ruby ---------- Blairsville
Reid, Sarah ---------- Chipley
Russell, Joy ---------- Rome
Smith, Janie ---------- Jesup
Scales, Ruby ---------- Barwick
Sasser, Bessie ---------- Ochlocknee
Sims, Ollie ---------- Winder
Skinner, Annell ---------- Winder
Strickland, Ollie ---------- Ashburn
Smith, Helen ---------- Cordele, R. B.
Smith, Eva Kate ---------- Waycross
Skelton, Effie ---------- Hartwell
Surrency, Jewell ---------- Jesup
Sutton, Gussie ---------- Jesup
Still, Mamie Lee ---------- Dacula
Webb, Sara ---------- Tifton
Wellborn, Buna Loy ---------- Lithonia
Whittlesey, Louise ---------- Fortson
Woodruff, Beunette ---------- Winder
Walker, Isabelle ---------- Rome
Womack, Lillie ---------- Aragon
Willingham, Louise ---------- Atlanta, R. 7
Williams, Clyde ---------- Quitman
Williams, Amanda ---------- Dahlonega
Zuker, Pauline ---------- Rockmart

CORN CLUB BOYS' SHORT COURSE

Adams, Robert ---------- Mansfield
Adams, C. N. ---------- Social Circle
Alden, C. H. ---------- Riverdale
Avery, T. B. ---------- Cordele
Ayres, Henry ---------- Gabbettsville
Baggett, Boyd ---------- Winder
Baker, James ---------- Atlanta
Bedingfield, Julius ---------- Winder
Berryman, Arnold ---------- Royston
Best, Edward ---------- Vienna, R. 1
Bowen, Emory ---------- Farmington
Boyd, Arthur ---------- Buena Vista

Buchanan, Carlyle ---------- Americus
Buchanan, B. P. ---------- Americus
Burns, H. R. ---------- Jesup
Brandy, Clarence ---------- Cairo
Branyan, Dewitt ---------- Danielsville
Britt, Curtis ---------- Macon, R. 1
Brown, Comer ---------- Elberton, R. 7
Browning, Leland ---------- Tifton, R. 5
Bryant, Robert ---------- Chipley
Bynum, Roy ---------- Shellman
Carter, Earl ---------- Lake Park, R. 1
Casey, F. H. ---------- Adairsville
Chance, Ira ---------- Swainsboro
Childs, Vernon ---------- Vienna, R. 2
Clay, Emory ---------- Macon
Cook, Horace ---------- Colquitt
Cole, J. W. ---------- Nicholls
Copeland, Maxey ---------- Dasher
Conger, Washington ---------- Tifton
Conger, Johnnie ---------- Tifton
Connor, Grady ---------- Gainesville, R. 3
Cox, J. T. ---------- Macon
Cunard, Lilburn ---------- Starrsville
Davis, Alfred ---------- Rome
Dean, William ---------- Stonewall
Deal, Lovin ---------- Baxley
Dellinger, C. M. ---------- Calhoun
Demery, Earley ---------- Nicholls
Dent, J. L. ---------- Odum
Dent, Loyis ---------- Jesup, R. 1
Dorsey, John ---------- Nicholls
Dubberly, Clyde ---------- Baxley
Dunn, C. F. ---------- Williamson
Eades, Frank ---------- Point Peter
Ford, Andrew ---------- Camilla, R. 2
Fowler, Harry ---------- Athens
Fowler, Roy ---------- Bowman
Goodrum, Oscar ---------- Cordele
Gregory, H. F. ---------- Douglas
Greene, J. A. ---------- Plains
Green, Norman ---------- Hartsfield
Green, Dewey ---------- Pavo
Hall, Marcus ---------- Dublin
Hall, Lawton ---------- Empire
Hall, Jack ---------- Empire

Ham, Parks ---------- Montezuma, R. 2
Hammond, Buford ---------- Danielsville
Harper, Leonard ---------- Cairo, R. 2
Hay, Johnnie ---------- Shellman
Head, R. P. ---------- Barnesville
Hearn, Walter ---------- Monroe
Higginbotham, James ---------- Brunswick, R. 1
Holt, Robert ---------- Ellijay
Howard, J. W. ---------- Kathleen
Humphrey, B. L. ---------- Swainsboro
Jefferes, Bennett ---------- Tucker
Jeter, F. D. ---------- Franklin
Johnson, Fred ---------- Cedartown, R. 3
Jones, Alvin ---------- Crawfordville
Kauffman, John ---------- Brunswick
Keown, James ---------- Rayle, R. 1
Kemp, H. H. ---------- Powder Springs
Kennedy, Barnis ---------- Register
Lawrence, Oscar ---------- Augusta
Lester, Claud ---------- Blakely
Lewis, H. L. ---------- Ochlocknee
Lietch, Frank ---------- Atlanta
Lollis, Edgar ---------- Abbeville
Lowe, Elzie ---------- Powder Springs, R. 3
Martin, Ray ---------- Kingston
Maxwell, Carl ---------- Hinsonton
Means, William ---------- Yatesville
Medlock, Merton ---------- Buckhead
Meeks, W. B. ---------- Nicholls
Mercier, Walter ---------- Berlin, R. 1
Miller, Clifford ---------- Milledgeville
Moody, L. F. ---------- Atlanta
Morgan, P. J. ---------- Americus
Moore, Moody ---------- Harlem, R. 2
Murphy, Lloyd ---------- Felton
McCart, Herbert ---------- Adams Park
McCart, Barney ---------- Adams Park
McDonald, Lester ---------- Townsend
McDonald, J. W. ---------- Hoschton
McEwen, Leo ---------- Danielsville
McGee, Baker ---------- Roberta
McGlamry, L. L. ---------- Rochelle
Nesmith, Grover ---------- Cochran
Newbern, Monroe ---------- Douglas, R. 1
Newton, J. R. ---------- Thomasville

Nicholls, Solomon ---------- Baxley
Parham, Mayo ---------- Autreyville
Peterson, Dan ---------- Douglas
Pierce, Charley ---------- Stockton, R. 2
Pierce, Jackson ---------- Fargo
Price, Clint ---------- Hinsonton
Ramsey, J. A. ---------- Albany
Rankin, Clarence ---------- Washington
Ray, E. A. ---------- Americus
Rentz, L. C. ---------- Naylor
Rozas, C. M. ---------- Eastman
Schley, J. A. ---------- Acworth
Sheats, George ---------- Atlanta
Smith, Raleigh ---------- Screven
Smith, G. C. ---------- Hephzibah
Smith, Hoke ---------- Blackshear
Smith, Claud ---------- Waco
Smith, Lee ---------- Valdosta, R. 1
Smith, Harmon ---------- Screven
Smith, Harvey ---------- Norwood, R. 2
Stone, Hyman ---------- Fitzgerald
Strickland, J. B. ---------- Bladen
Studstill, J. D. ---------- Valdosta
Suddeth, Ross ---------- Broxton
Tanner, G. D. ---------- Nicholls
Tanner, Dewey ---------- Winder
Taylor, J. G. ---------- Alma
Thomas, Guy ---------- Milan
Tomlin, Felcer ---------- Stockton, R. 2
Thompson, H. B. ---------- Palmetto
Tuggle, Bob ---------- Monticello
Veazy, W. T. ---------- Norwood
Warren, Ralph ---------- Sargeant
Waters, Monroe ---------- Blackshear
West, Henry ---------- Union Point
Westberry, Otis ---------- Screven
Whittaker, Herbert ---------- Harlem
Williams, Orion ---------- Cordele
Williams, L. B. ---------- Newnan
Williams, Charles ---------- Winder
Wofford, Teddy ---------- Winder
Womack, Joel ---------- Ashburn
Yoemans, Leon ---------- Blackshear, R. 2

SUMMARY OF REGISTRATION

M.S. in Agriculture	4
B.S. in Agriculture	147
One-year Course	12
Special	3
Collegiate Summer Course	8
Summer Cotton Grading Course	19
Farmers' Short Course	68
County Agents' Course	70
Home Economics Course	60
Farm Women's Short Course	25
Canning Club Girls' Short Course	83
Corn Club Boys' Short Course	145
Total Registration	644
Those counted twice	3
Net attendance	641

INDEX

TERMS OF ADMISSION

BACHELOR OF SCIENCE IN AGRICULTURE

BACHELOR OF SCIENCE IN AGRICULTURAL EDUCATION

An applicant for either of the above courses must be sixteen years of age and must present on entrance 14 units, as specified below. No conditions are allowed, but the applicant is permitted in certain cases to offer two elective units in lieu of the required two units of foreign language, this work being taken later. Both courses require two years of actual farm experience prior to graduation.

BACHELOR OF SCIENCE IN FORESTRY

Forestry students must be sixteen years of age on entrance and must present 14 entrance units, as specified below. Attendance upon a summer forest camp is considered a part of the course.

DOCTOR OF VETERINARY MEDICINE

An applicant for the degree of D. V. M. must be seventeen years of age and must present upon entrance 14 units, as specified below. No farm experience is required.

BACHELOR OF SCIENCE IN HOME ECONOMICS

An applicant for the B.S.H.E. degree enters the junior class. Sufficient maturity and ability to do the required work must be shown. Graduation from one of the state normal schools or from an institution of similar rank having well developed departments of home economics, is required for entrance. An applicant may present 14 units, as specified below, and two years of college work. The two years of college work must include 6 credit hours of English, 3 credit hours of Chemistry, 3 credit hours of Physics, 6 credit hours of Home Economics, 6 credit hours of Education and Educational Psychology, 2 credit hours of Elementary Drawing and Design, and 10 hours of electives—a total of 36 credit hours.

MASTER OF SCIENCE

An applicant for the degree of M.S. must show sufficient maturity and ability to do the required work. A reputable baccalaureate degree is required.

ONE-YEAR COURSE IN AGRICULTURE

An applicant for the one-year course in agriculture must be eighteen years of age and must have had some farm experience prior to application for entrance. The purpose of this course is to provide suitable instruction for those who can remain in college only one year.

*ENTRANCE UNITS

Admission to any four-year degree course requires 14 units which may be offered as follows:

English	3	Foreign Language	2
Algebra	1½	History	2
Geometry	1	Electives	4½

Not more than 4½ elective units may be selected from the following: Solid Geometry, ½; Agriculture, 3; Physical Geography, 1;* Drawing, 1; Physics, 1 Physiology, ½; Botany, 1; Zoölogy, 1; Chemistry, 1; *Manual Training, 2; *Commercial subjects, (Typewriting, Shorthand, etc.), 2; Additional—History, Mathematics, English, or foreign language, each 1.

Entrance examinations will be held in Athens and throughout the state in June and September.

For further information as to terms of admission please see pages 26 to 32 of this catalog.

*Entrance units will be accepted from accredited schools only.